

# Resco Mobile CRM

## Woodford User Guide

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Resco.net

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# 1 Introduction

Resco Mobile CRM Woodford Guide explains how to customize the Resco Mobile CRM application and deploy the customizations to a mobile device.

The Guide will also show all the possibilities that Woodford provides including maintaining the mobile users licenses and how to administrate the security policies.

The second section will show the possibilities in terms of installation of Woodford and the difference between standalone and imported solution.

The third section describes the administration possibilities. How project administration works, maintaining security policies, administrate licenses and other Woodford's possibilities.

The fourth section shows how to create a project and what are the customizations available using Woodford.

The fifth section shows some examples of advanced functionalities and answers for some frequently asked questions.

Sixth and Seventh sections describe and show how to work with offline HTML files and how to implement Java Script to these HTML files.

## 2. Before we start the customization

### 2.1 Prerequisites

- Resco Mobile CRM Woodford—available at <http://www.resco.net/mobilecrm/woodford.html>
- Resco Mobile CRM App, which minimum version is indicated on the right upper corner of Woodford's window—available for each of the supported platforms on Resco web (<http://www.resco.net/mobilecrm/app.aspx>)

*Note: Minimum Resco Mobile CRM version required for customization is indicated on the right upper corner of Woodford's window.*

- The user that is logging in to synchronize with the server needs to have administrator rights

## 2.2 Download or Install?

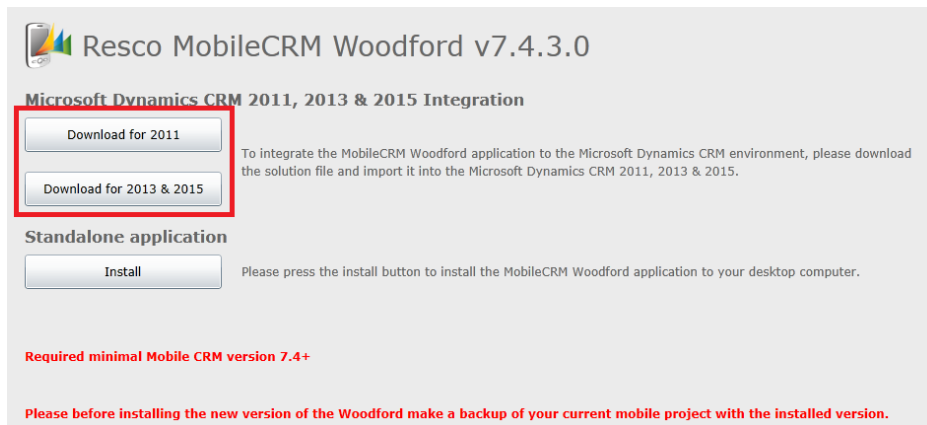


By clicking the link (<http://www.resco.net/mobilecrm/woodford.html>) you have two options: Download or Install Resco Mobile CRM Woodford.

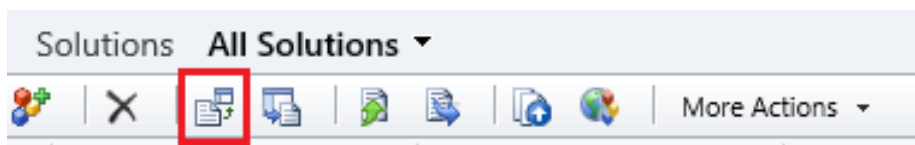
**Note:** Woodford integration by importing the managed solution file is not available for Dynamics CRM 4. Imported solution or standalone Woodford application is available for CRM 2011 and CRM 2013.

### 2.2.1 Download and Import of the solution file

Download option will download the Woodford solution file, which can be imported to your CRM organization, and you will be able to run Woodford directly from CRM Settings section. In some cases this option helps overcome some authentication problems that you may encounter when using Standalone version.



When you [download](#) the solution file, go to your CRM server Settings>Solutions and hit the Import button.



Then choose the downloaded Woodford solution file to be imported. Then follow instructions.

## Select Solution Package

 Help

Select the compressed (.zip or .cab) file that contains the solution you want to import and click Next.

C:\Users\Matus Stanovsky.RESCO\Downloads\woodford\_7\_4\_3\_0\_managed.zip

Browse...

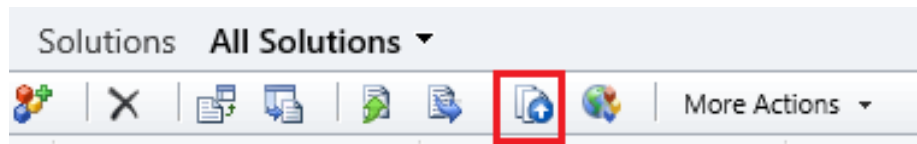
Back

Next

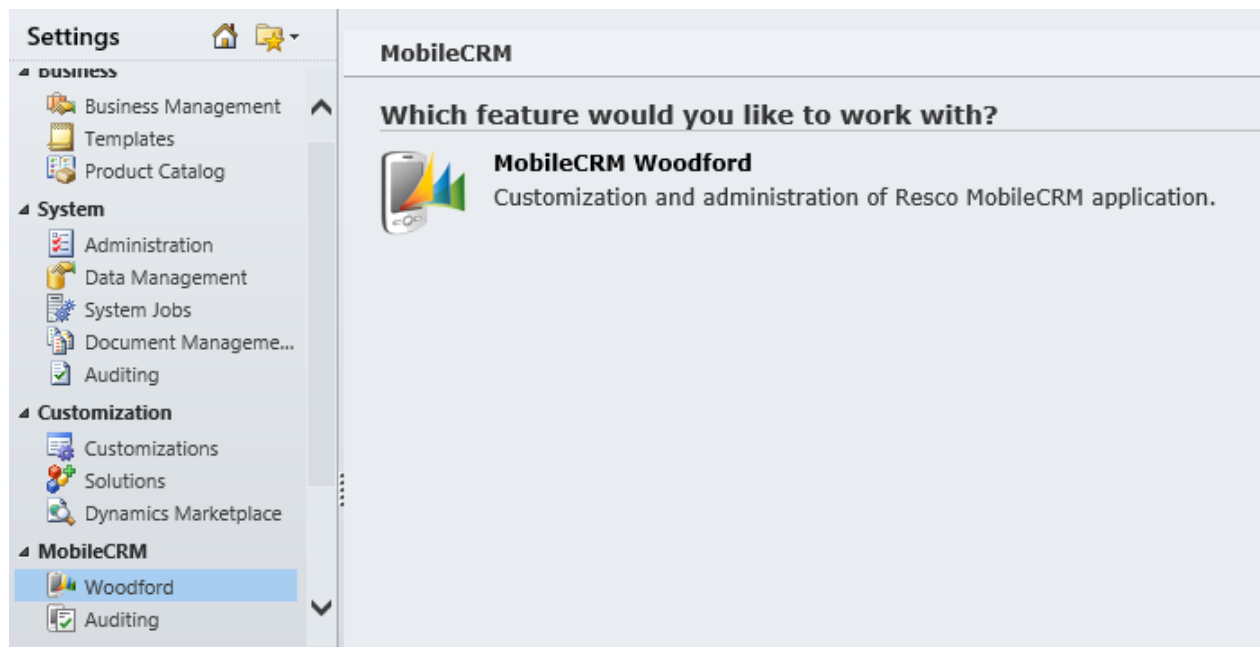
Cancel

 100% ▼

Do not forget to publish all customizations.



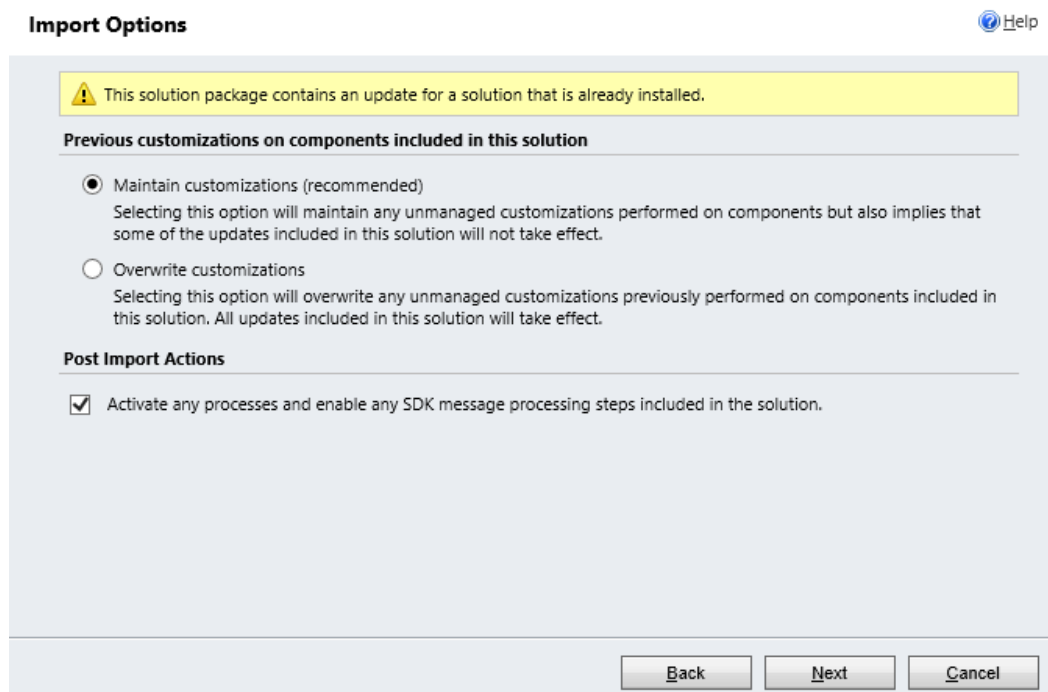
Woodford is then available from the CRM Settings, under MobileCRM section



### 2.2.2 Updating Woodford Imported Solution

If new version is available, you will get a prompt about updating Woodford. Choosing Update when using imported solution does not work.

When you want to update the existing Woodford solution, perform the same steps as above, downloading the latest version of the imported solution file, and when prompted to choose the Maintain customizations or Overwrite customizations, during the import, please choose the Maintain customizations option.



After update of the solution file, publish all customizations on the CRM server and reload the CRM website in browser.

**!Disclaimer:** *We highly recommend to create a backup of your projects before each upgrade of the Woodford (both, Standalone and Integrated)*

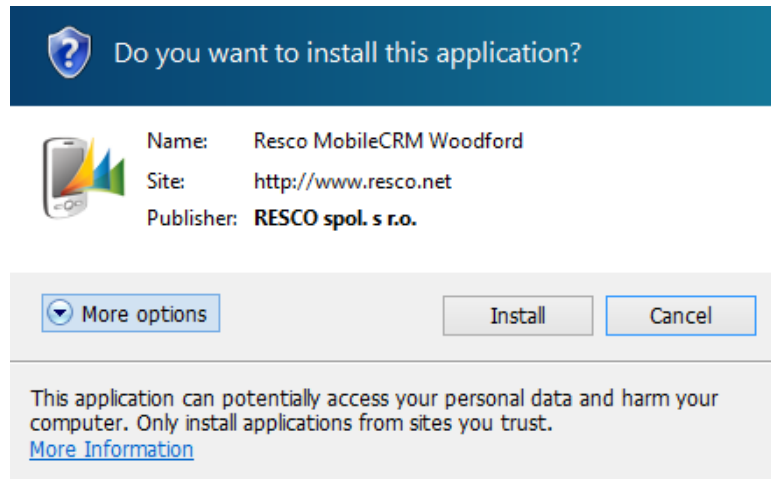
### 2.2.3 Uninstall the Integrated Woodford

In Dynamics CRM 2011 and CRM 2013 you only need to remove the Woodford solution file.

**! Disclaimer:** *All projects will be removed. Make backup using the export functionality. In order to uninstall the Woodford application or solution file, each entity enabled in Plugins (N:N Relations, Delete, Owner) has to be deactivated in the plugin.*

### 2.2.4 Install of the Standalone Woodford

Choose the Install option if you use Microsoft Dynamics CRM 4.0 or if do not wish to integrate Woodford with your Dynamics CRM 2011 or CRM 2013.



### 2.2.5 Updating Woodford Standalone Application

When a new version is available, you will be prompted to update Woodford. You can choose Update, wait until Woodford is updated, and start it again. Or you can update later from Woodford's About section.

**!Disclaimer:** *We highly recommend to create a backup of your projects before each upgrade of the Woodford (both, Standalone and Integrated)*

### 2.2.6 Uninstall the stand-alone Woodford application

In Dynamics CRM 2011 and CRM 2013 you only need to right-click the app and select „Remove this application...“.

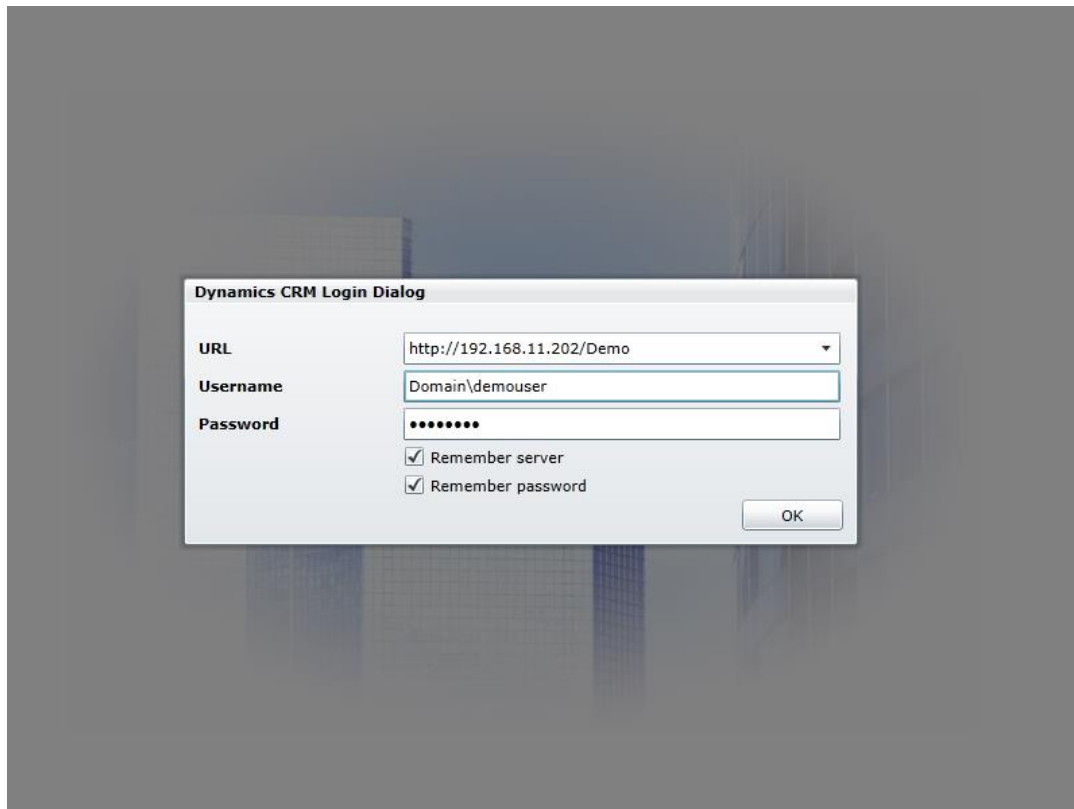
Then you can remove the Woodford solution file (imported at the Woodford's first run). In Dynamics CRM 4, after uninstalling the Woodford application, manually remove all the entities, which start with resco\_.

**! Disclaimer:** When removing the solution, all projects will be removed. Make backup using the export functionality. In order to uninstall the Woodford application or solution file, each entity enabled in Plugins (N:N Relations, Delete, Owner) has to be deactivated in the plugin.

## 2.3 First run

When the Woodford is launched, a registration dialog pops up. In order to use the tool, you have to fill in the registration details. Then, the login dialog is shown.

In the login dialog, fill in all fields in order to connect to your Dynamics CRM server and then click OK button. Username for Active Directory and IFD needs to be in the format DOMAIN\USERNAME if required. On the first run required entities are created on the server, so user with system administrator security role is required to log in. It is recommended that system administrator handles all the administration and customizations using Woodford.



### 2.3.1 Sign in troubleshooting

Proxy or Reverse Proxy (ISA, Forefront) is not supported. Any middle component requiring authentication to pass through is not supported for Stand-alone application. This scenario is not present in case of the Woodford integration, as the authentication is covered by Internet Explorer, so any middle component requiring authentication is supported. Also in case of an invalid SSL, the login will fail, due to the Silverlight restrictions.

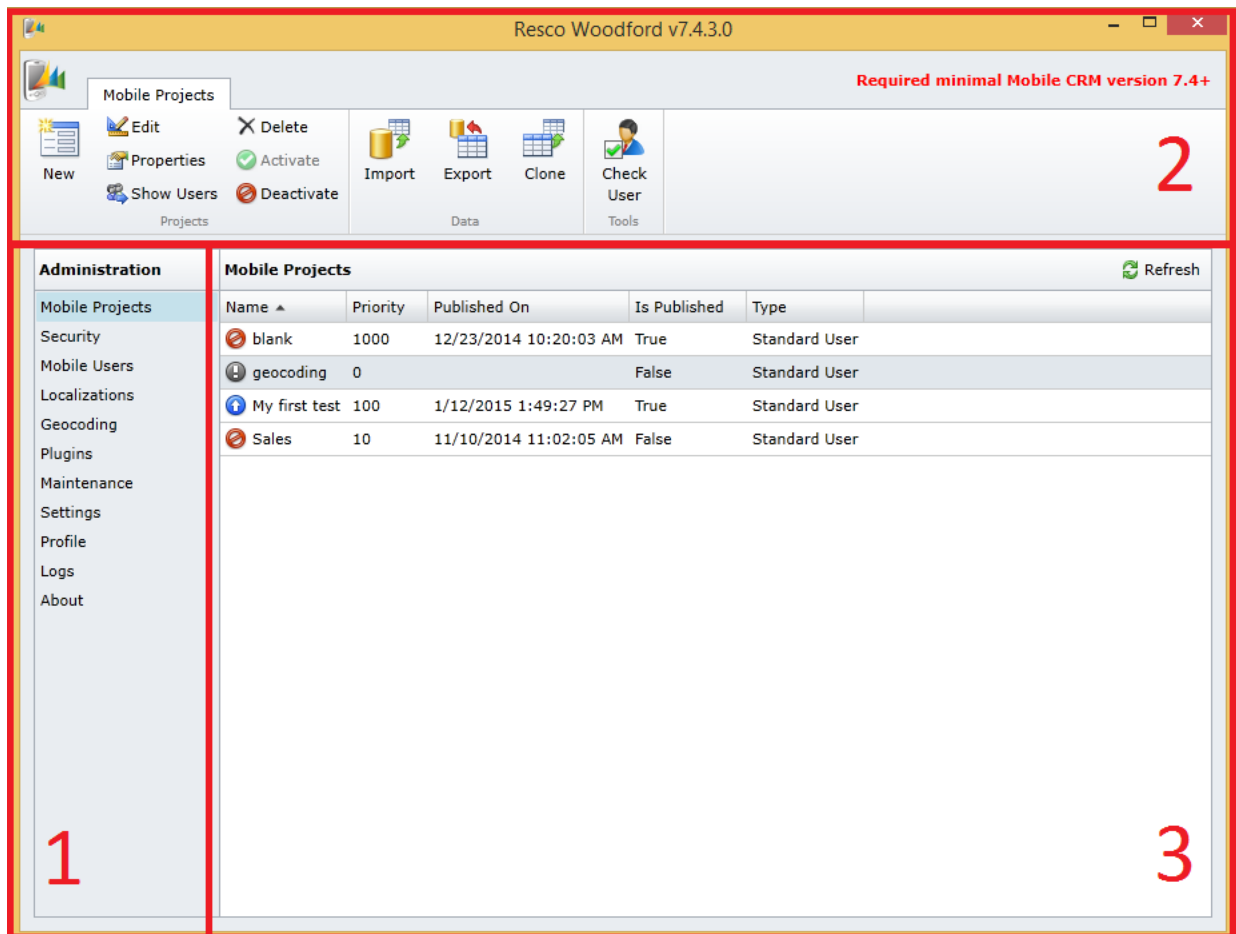
In case the Refresh Metadata will fail, increase the ReceiveTimeout registry key.

[HKEY\_CURRENT\_USER\Software\Microsoft\Windows\CurrentVersion\Internet Settings].  
ReceiveTimeout DWORD = 3600000 milliseconds (1hour).

## 2.4 Introduction

After the successful login, the main screen of the app shows up:

1. Administration Menu: Mobile Projects, Security, Mobile Users, Localizations, Geocoding (New), Plugins, Settings, Logs and About
2. Main Menu or a Toolbar with basic options, that depends on the selected item from the Administration Menu
3. Displays data and options according to the selected item from the Administration Menu



**Note:** While the Woodford is in the evaluation period, the Mobile Users menu is not available, as the number of mobile users during the trial period is not limited.

## 3 Administration

When We run the Resco Mobile CRM Woodford, using the Administration menu, we can access Mobile Projects management, Mobile Devices management, Mobile Users management, Settings, Logs and About

### 3.1 Mobile Projects

In the main menu, we can manage the selected project, or create new one using the **New** button.

*Note: Mobile projects are stored as Note attachments to resco\_mobileproject's records.*

*Warning: When you do a bulk delete of your Notes, please note you might also delete your mobile projects. To avoid this, please exclude Note attachments to resco\_mobileproject's records from the bulk deletion.*

Using **Edit** button I will open the project and adjust it (we can also double click on the project to perform the same operation).

Clicking the Properties button we can adjust the project's properties Name, Role and Priority.

Button **Show Users** opens up a window with a list of users, which will receive the customization, i.e. users, with security role, assigned to the project.

The **Delete** button removes the selected Mobile Project.

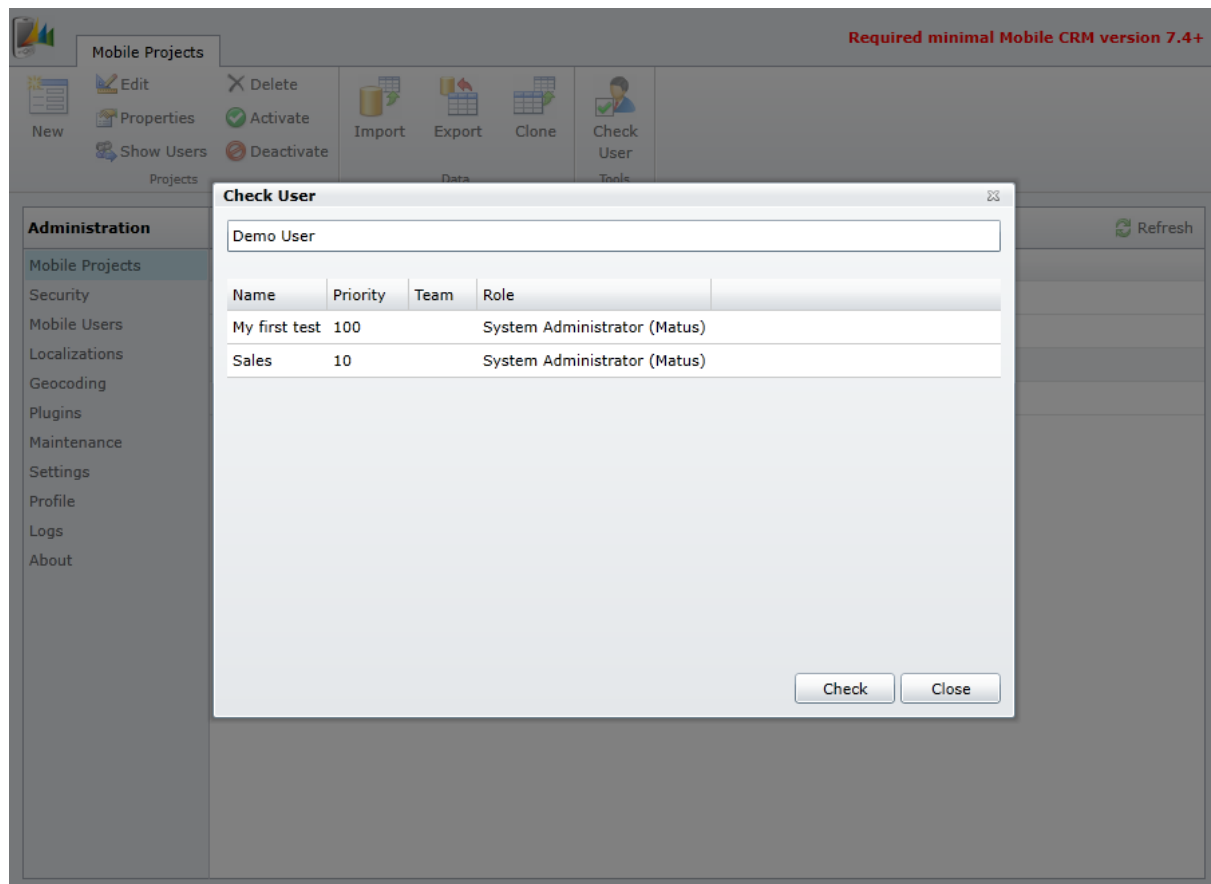
**Deactivate** will deactivate the selected project. Deactivated project will not be used to customize the Mobile CRM application, but the project will not be deleted.

**Activate** button will activate the deactivated project

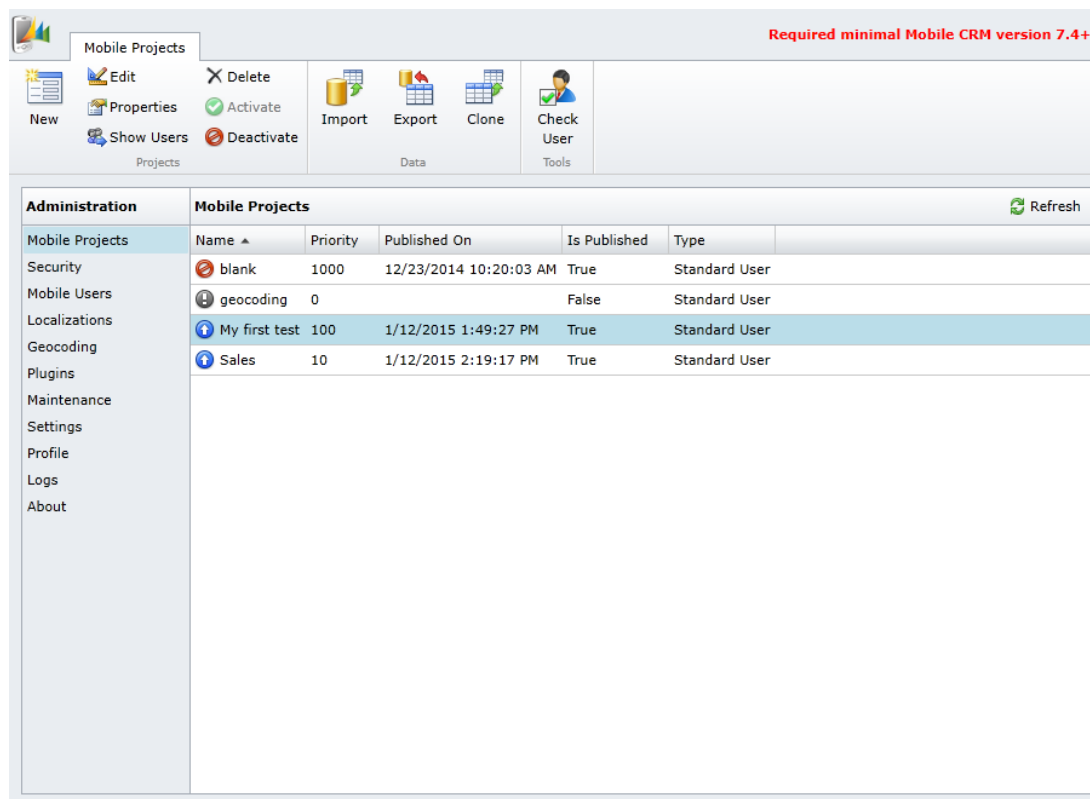
**Import** will import the previously exported project.

**Clone** will duplicate the same Mobile Project and will prompt for the Name, Role and Priority. We can use the Clone button for e.g. duplicating the same project to other user role, or to make changes to the currently used Mobile Project without risk.

Clicking on the **Check User** button we will be prompted for the user name and the application will show you all the Mobile Projects where the user is involved, including the project's priority, so we can see which Mobile Project will be used ( in screenshot - the project on top will be the one used).



If a project has a grey icon with exclamation mark, it means the project is dirty, i.e. there has been a change in the project, but it was not published after making these changes.



### 3.2 Security

Security shows the list of devices that are synchronizing with your CRM and additional information about the State (Ok, Locked, and Wiped), Device ID, Device OS, and Version of the Mobile CRM installed on the device, Lock, Wipe and Force Full Sync checkboxes, User name that was used for the last synchronization and the date of the last synchronization.

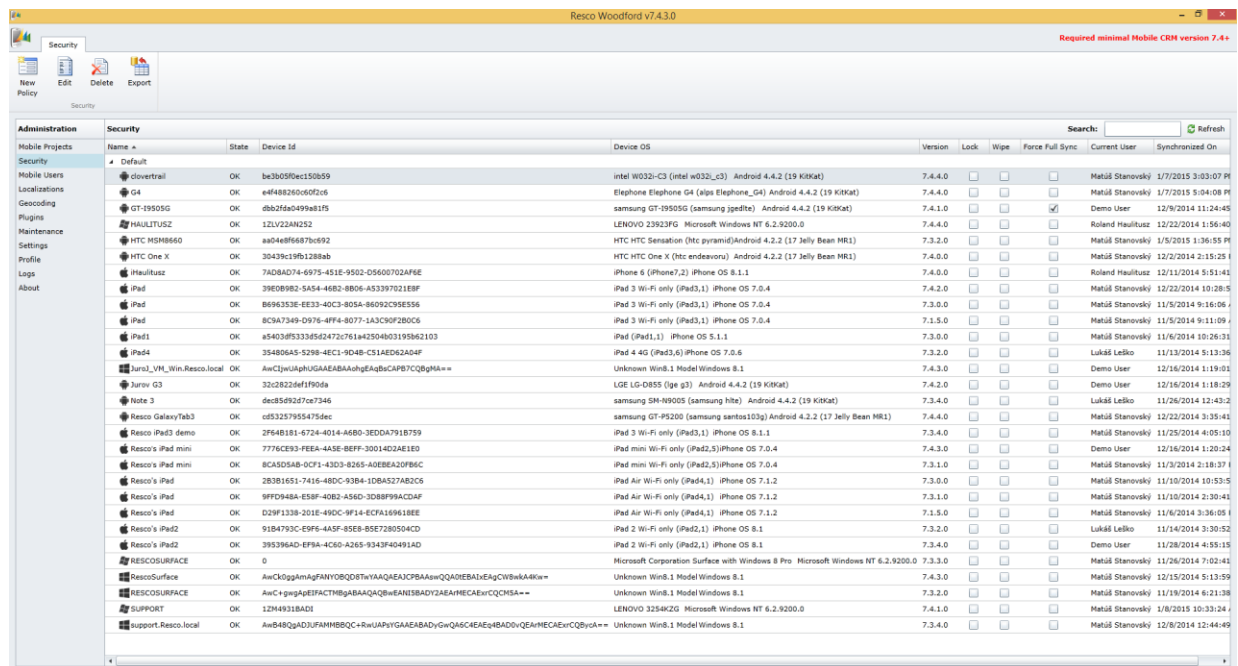
If the **Lock** checkbox is enabled, the device will be locked and the application will not be usable.

If the **Wipe** checkbox is enabled, the device is wiped out, the local database on the device, the server URL and user credentials are erased.

If the **Force Full Sync** checkbox is enabled, at the next device's synchronization the full sync will be performed. After a full synchronization, this checkbox will be disabled automatically.

***Note:** In case of Android and iOS platforms, for the Lock and Wipe the push notifications are used and the device is Locked or Wiped out immediately (or after application start) if there is an internet connection available on the device. Other platforms require performing synchronization, or changing the Security policy.*

If the Force Full Sync checkbox is ticked, at the next device's synchronization a full synchronization is performed, so the latest data from the database are downloaded. This is required at some changes in project, or e.g. changes in user/security role permissions.



When you delete a device using the **Delete** button on the toolbar, at the next device's synchronization with the server the device is assigned to Default policy.

When you delete a Security Policy, you need to assign devices to a different policy. You cannot delete Security Policy if there are device assigned to it.

**Export** button exports the list of devices to a csv file.

### 3.2.1 Security Policy

Security Policy is a set of properties that are applied to all devices for which the policy is set.

The Security Policy properties are in groups.

### Application Session

Require Login after X minutes of inactivity – After defined time in minutes the Mobile CRM application asks for the password to continue using it.

### Check Security Policy

At Application Login – Mobile CRM application checks whether there is a change in the security policy at the application login. The login is performed either at the start of the application or if user enters a password to log in to the application.

Every X Hours – The Security Policy is checked periodically after defined time in hours.

*Note: If none of these options are used, the policy is downloaded only at synchronization*

### Lock Application

Lock Application – If this option is enabled, all devices under this policy will be locked and the application cannot be used unless the device has a different policy assigned.

If no server contact after X hours – The application is locked if the application did not connect the CRM server either in matter of checking the policy or synchronization, or online mode access. Application can be unlocked by entering the correct password. In this case also the internet connection is required.

During non-business hours – Application is locked if the time is outside the given interval.

Invalid password X times – If a wrong password is entered defined times to the login, the Mobile CRM application locks up (Admin lock) and can be unlocked in the Woodford's Security list of devices. The locked device will have a Lock checkbox enabled and needs to be unchecked.

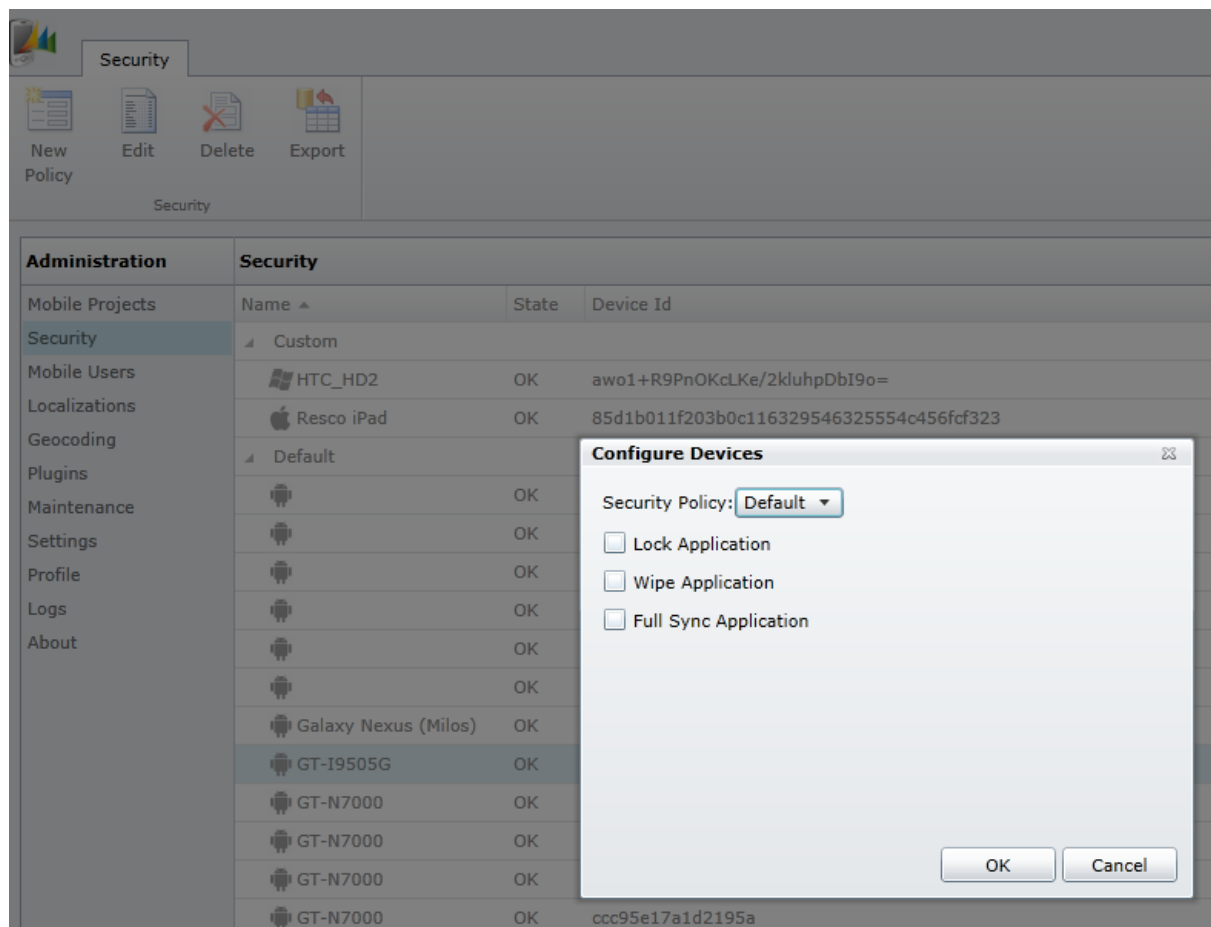
## Wipe Application

Wipe Application – If this option is enabled, all devices under this policy are wiped, even if user tries to synchronize the Mobile CRM with the server.

If no server contact after X hours – The device's local Mobile CRM database is wiped out if the application does not contact server after defined number of hours.

Invalid password X times – The device's local Mobile CRM database is wiped out after entering a wrong password defined number of times.

Devices can be assigned to Security Policy when the device is selected and the Edit button on the toolbar is selected (or double-click on the device). To change the Security Policy, select the Policy that should be used from the options. Please note, that you need to create a new Security Policy in order to assign it to a device.



### 3.2.2 Default Security Policy

When a new device is used to synchronize with your server, it is automatically listed under policy Default. You can edit this policy by selecting the Default row and clicking on Edit button on the toolbar. When you edit this policy, you will define how all the device will handle Security until you move them under a custom created Security Policy.

### 3.3 Mobile Users

This section enables you to manage User licenses. When a user logs to the CRM server from a mobile device, he might receive the Woodford customization depending on the Auto assign licenses option in Settings. He can receive the state **Enabled** or **Pending**. You can also add a user before he attempts to log in using the **Add** button. You can also **Enable** the disabled or pending user, **Disable** the Enabled or pending user or **Delete** a user.



Mobile Users



Add



Enable



Disable



Delete



Export



Update Licenses

Required minimal Mobile CRM version 7.4+

Total licenses: 50  
Available licenses: 44  
Licenses Expires On: 11/20/2015

Administration

Mobile Users

Mobile Projects

Security

Mobile Users

Localizations

Geocoding

Plugins

Maintenance

Settings

Profile

Logs

About

Mobile Users

Full Name

All

Unit

State

Created On

Modified On

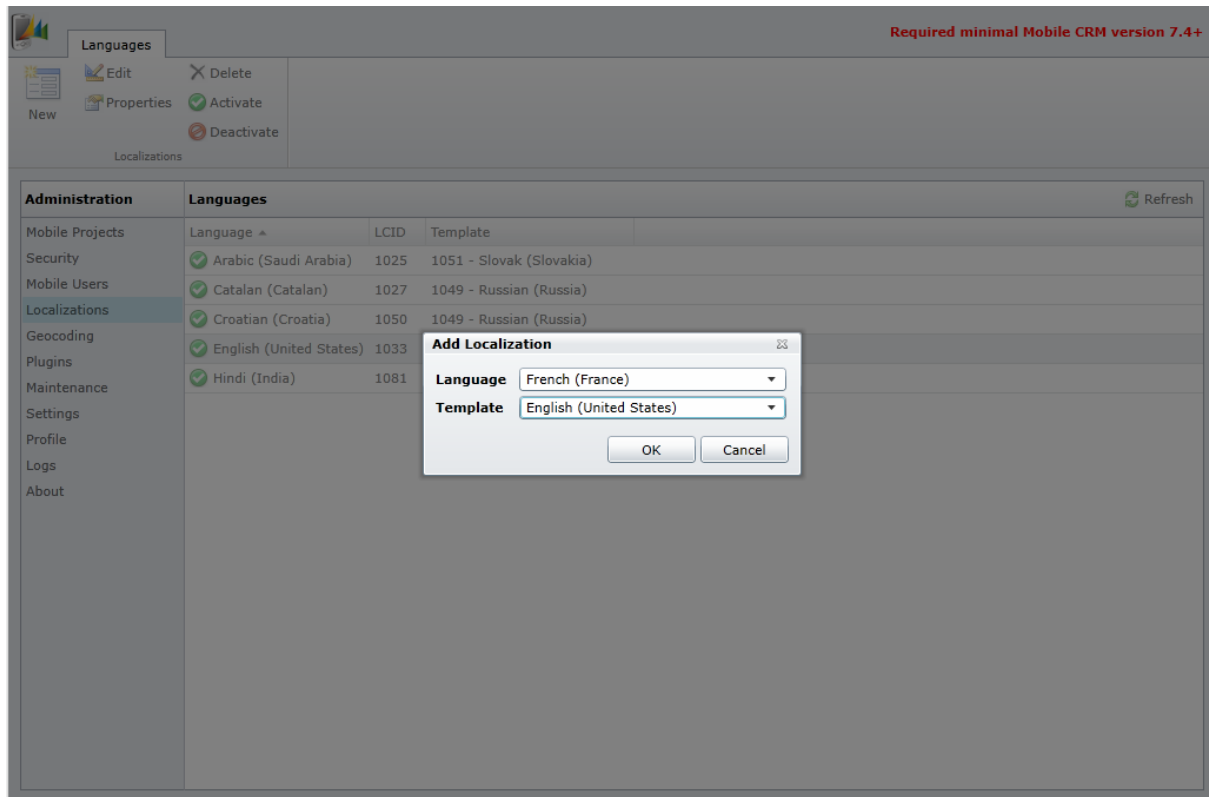
Refresh

|                   |          |                       |                       |
|-------------------|----------|-----------------------|-----------------------|
| Demo User         | Enabled  | 12/3/2012 5:22:37 PM  | 12/3/2012 5:22:37 PM  |
| John Doe          | Disabled | 4/10/2013 12:17:28 PM | 4/10/2013 12:17:28 PM |
| Woodford Woodford | Pending  | 4/10/2013 12:17:39 PM | 4/10/2013 12:17:39 PM |

**Note:** The Mobile Users section is not available during the trial period. During this period the customizations can be used for as many users as desired.

### 3.4 Localizations

Using this option, you can add a language mutation of the Mobile CRM application – this means you can change various display names in the app, change name of entities, tabs in forms and other UI elements. To add a localization on the Organization level, go to Localizations section in the Administration section of Woodford. Click on the **New** Button on the toolbar. From the opened window select the target Language and the Template language that will be used as a source.



Now open the created language from the list of Languages. In the first column, there is the field's **Id** name, in the second one (Organization) are the field's that are, or need to be translated.

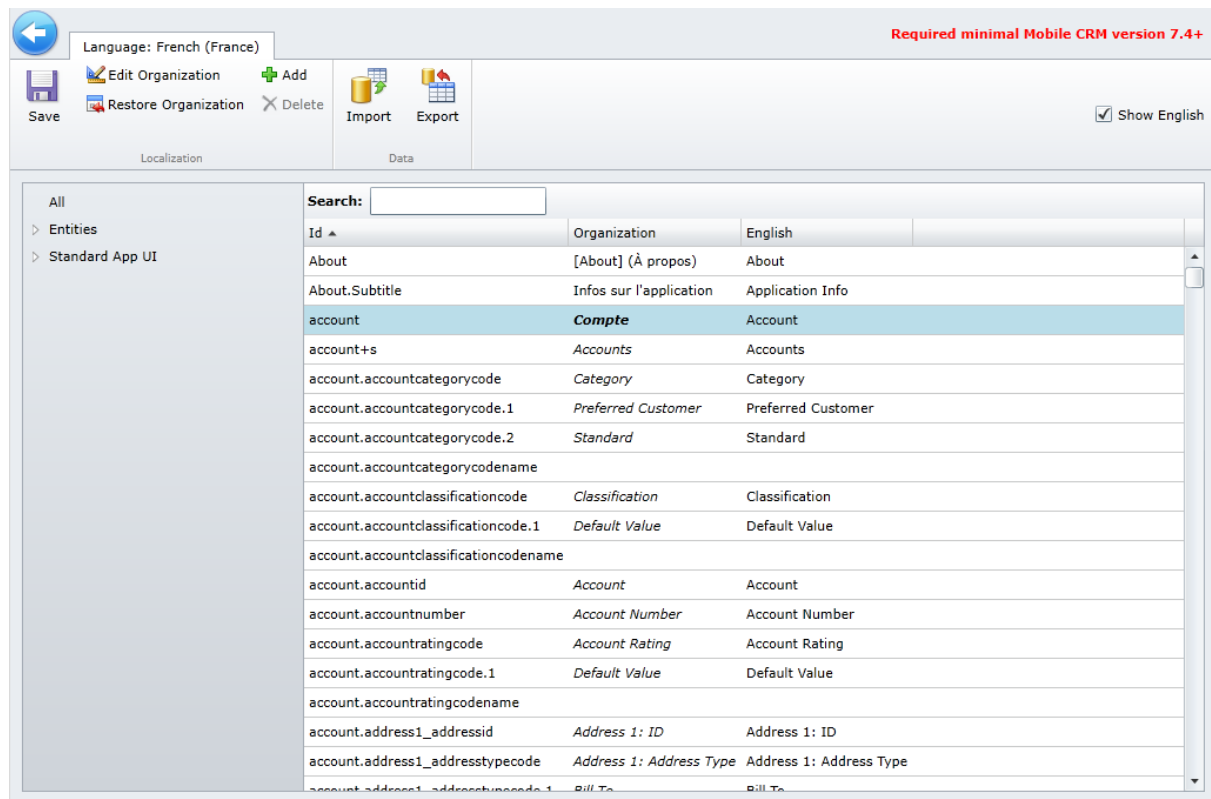
**Languages**
Required minimal Mobile CRM version 7.4+

New
 Edit
 Delete
 Properties
 Activate
 Deactivate

Localizations

| Administration  | Languages               |      |                                | Refresh |
|-----------------|-------------------------|------|--------------------------------|---------|
|                 | Language ▲              | LCID | Template                       |         |
| Mobile Projects | Arabic (Saudi Arabia)   | 1025 | 1051 - Slovak (Slovakia)       |         |
| Security        | Catalan (Catalan)       | 1027 | 1049 - Russian (Russia)        |         |
| Mobile Users    | Croatian (Croatia)      | 1050 | 1049 - Russian (Russia)        |         |
| Localizations   | English (United States) | 1033 | 1033 - English (United States) |         |
| Geocoding       | French (France)         | 1036 | 1033 - English (United States) |         |
| Plugins         | Hindi (India)           | 1081 | 1042 - Korean (Korea)          |         |
| Maintenance     |                         |      |                                |         |
| Settings        |                         |      |                                |         |
| Profile         |                         |      |                                |         |
| Logs            |                         |      |                                |         |
| About           |                         |      |                                |         |

In the English column there is the original English text for review. It can be turned off by unchecking the **Show English** checkbox on the right top part of the screen.

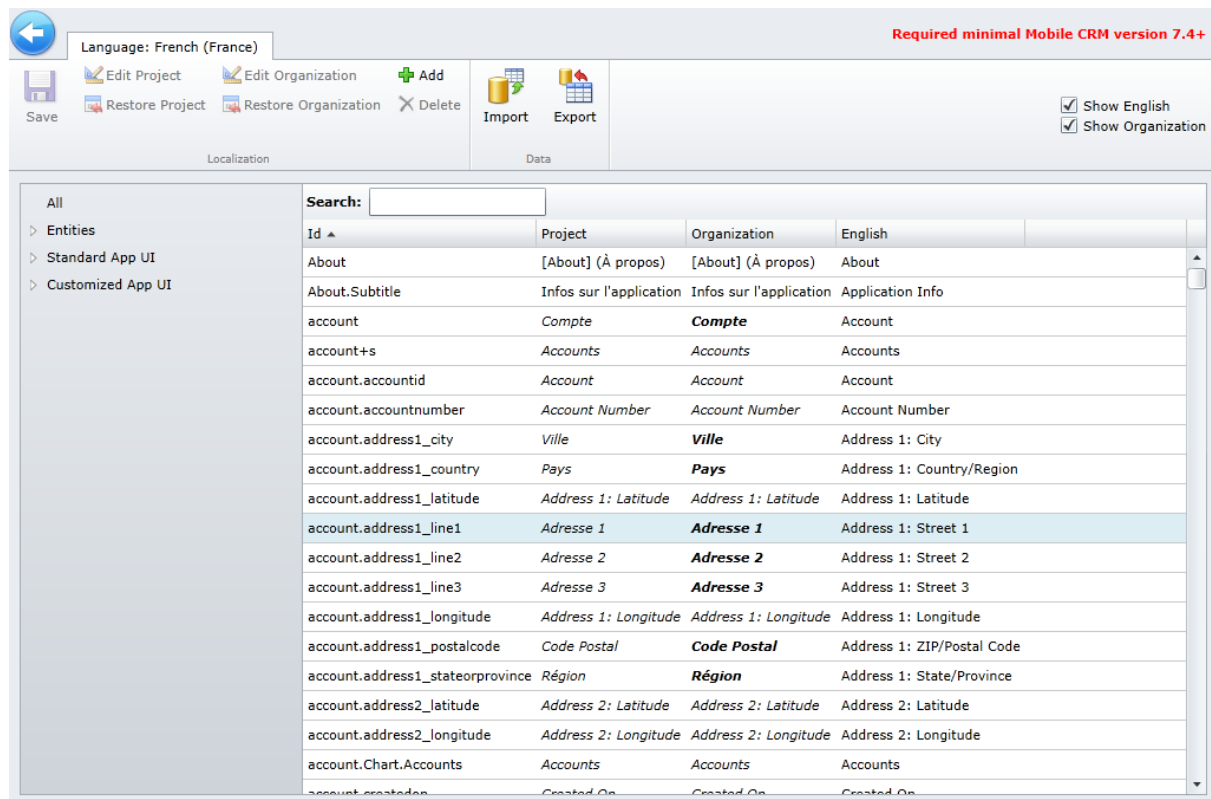


When you select **All** in the left part of the screen, you will see all the field strings available. When you click on **Entities**, you can see all the field strings related to Entities. You can also scroll down the entity list and view field strings per entities.

Clicking on **Standard App UI** you can see the fields that are used in the Mobile CRM application UI. You can also scroll down the list of controls and view strings per controls.

Using the **Add** button in the Toolbar, you can add a new string. Using the **Import/Export** button you can Import/Export the localization file and use it for/from another server or Organization.

When the localization on the Organization level is done, open the project where you want to add the localization, click on Localizations and the list of available languages is displayed. Here you can disable or enable or delete the selected localizations using the **Activate**, **Deactivate** and **Delete** toolbar buttons.



The state (font) of the localization string meaning:

**Normal** - localized expression is taken from the server

**Bold** - expression from the template is used to overwrite the original text

**Italic** - expressions that are not available on the server neither on the template thus the English (default) version from the server is used.

**Italic Bold** - new text - not in template, nor on server

## 3.5 Geocoding

The Geocoding section in Woodford contains tools for geocoding your records according to the addresses – this means you can translate address information of the records into raw GPS data which the mobile application needs to properly display records on the Map.

**Geocoder**

Fetch Data Find Position Find Address Save

**Administration**

- Mobile Projects
- Security
- Mobile Users
- Localizations
- Geocoding**
- Plugins
- Maintenance
- Settings
- Profile
- Logs
- About

**Geocoder**

Select Entity : account

Select fields :

Street : address1\_line1

☐ Set additional street fields

City : address1\_city

State : address1\_stateorprovince

Postal code : address1\_postalcode

Country : address1\_country

Latitude : address1\_latitude

Longitude : address1\_longitude

☐ Find position by query

Filter by : ...

Bing Map Key :

**Entities**

Show: All

From Index To Index Select Deselect All Invert Selection

| Select                   | Entity Name                   | Street                    | City          | State | Country | PostalCode | Latitude | Longitude  | Detail |
|--------------------------|-------------------------------|---------------------------|---------------|-------|---------|------------|----------|------------|--------|
| <input type="checkbox"/> | A Bike Store 1                | 5009 Orange Street        | Renton        | TX    | U.S.    | 20175      | 31.43491 | -99.30647  | i      |
| <input type="checkbox"/> | Active Cycling                | 100 Red Oak Lane          | Dallas        | TX    | U.S.    | 20313      | 32.75572 | -96.80871  | i      |
| <input type="checkbox"/> | Advanced Bike Components      | 4405 Balboa Court         | Santa Cruz    | TX    | U.S.    | 95486      | 27.41412 | -98.26616  | i      |
| <input type="checkbox"/> | Affordable Sports Equipment   | 7995 Edwards Ave.         | Lynnwood      | TN    | U.S.    | 58299      | 35.843   | -86.34305  | i      |
| <input type="checkbox"/> | All Cycle Shop                | 9068 Muir Road            | Los Angeles   | KA    | U.S.    | 20593      | 39.44326 | -98.95734  | i      |
| <input type="checkbox"/> | Amazing sports store          | 3397 Rancho View Drive    | Redmond       | WA    | U.S.    | 90000      | 47.67858 | -122.13158 | i      |
| <input type="checkbox"/> | Amuzing bikes                 | 9906 Oak Grove Road       | Redmond       | WA    | U.S.    | 80803      | 47.67858 | -122.13158 | i      |
| <input type="checkbox"/> | Another Bicycle Company       | 2313 B Southampton Rd     | Missoula      | TX    | U.S.    | 58047      | 31.43491 | -99.30647  | i      |
| <input type="checkbox"/> | Astonishing bikes             | 2137 Birchwood Dr         | Redmond       | WA    | U.S.    | 78214      | 47.67858 | -122.13158 | i      |
| <input type="checkbox"/> | Basic Bike Company            | 137 Lancelot Dr           | Phoenix       | CA    | U.S.    | 10032      | 38.56117 | -121.7509  | i      |
| <input type="checkbox"/> | Best o' Bikes                 | 3421 Gehringer Drive      | Daly City     | IN    | U.S.    | 57457      | 39.9198  | -86.2818   | i      |
| <input type="checkbox"/> | Bicycle Accessories and Kits  | 4915 Pear Dr.             | Newport Beach | IN    | U.S.    | 56373      | 33.73999 | -117.90646 | i      |
| <input type="checkbox"/> | Big-Time Bike Store           | 4650 Franklin Canyon Road | Lebanon       | MA    | U.S.    | 43935      | 42.12551 | -71.49862  | i      |
| <input type="checkbox"/> | Bike Boutique                 | 2265 Park Glen Court      | Port Orchard  | NC    | U.S.    | 47349      | 35.74355 | -79.10212  | i      |
| <input type="checkbox"/> | Bike Dealers Association      | 6283 San Marino Ct.       | Bellingham    | IL    | U.S.    | 80437      | 48.75235 | -122.47122 | i      |
| <input type="checkbox"/> | Bike Experts                  | 2472 Alexander Place      | West Covina   | TX    | U.S.    | 95626      | 33.88289 | -118.04507 | i      |
| <input type="checkbox"/> | Bike Products and Accessories | 9830 May Way              | Mill Valley   | CA    | U.S.    | 20313      | 37.97414 | -122.28216 | i      |
| <input type="checkbox"/> | Bike Universe                 | 56789 Bright Road         | Round Rock    | TX    | U.S.    | 98928      | 36.10038 | -84.00056  | i      |
| <input type="checkbox"/> | Bike-o-maniac store           | 1398 Yorba Linda          | Seattle       | WA    | U.S.    | 85058      | 47.60356 | -122.32944 | i      |
| <input type="checkbox"/> | Bikes unlimited               | 8290 Margaret Ct.         | Seattle       | WA    | U.S.    | 89764      | 47.86952 | -122.69112 | i      |
| <input type="checkbox"/> | Black Sports Goods            | 825 Coral Way             | Miami         | FL    | U.S.    | 33155      | 25.74924 | -80.27207  | i      |
| <input type="checkbox"/> | Blue Bicycle Company          | 1286 Cincerto Circle      | Lake Oswego   | FL    | U.S.    | 53502      | 45.4549  | -122.86282 | i      |

Selected: 0 | Key: New | Unmodified | Changed | Failed

**Prerequisites for Geocoding** – to geocode the records you need to obtain The **Bing Map Key** – (if your company will be using the obtained GPS data only inside of the company, then the plain developer key will should be enough) . More information about Bing Map Key can be found [here](http://msdn.microsoft.com/en-us/library/ff428642.aspx) (<http://msdn.microsoft.com/en-us/library/ff428642.aspx>)

**Prerequisites for GPS fields**

### 3.5.1 Geocoder

**Select Entity** : Selects the entity from which you want to fetch the records for geocoding

**City, State, Postal code, Country** – select the fields which fall under their respective categories (i.e. choose Address1\_city as **City**, Address1\_zip as **Postal code** and etc.)

**Set additional street fields** – after checking this option you will be given the opportunity to select other street fields if you have more. You can also set their order by adjusting the {1} {0} {2} string parameter (e.g. {2} {1} {0}).

**Latitude,Longitude** – select the longitude and latitude fields in which you keep the GPS data

**Find position by query** – when this is checked, Bing uses a different kind of search that is suitable when your records are frequently missing fields like City, Zip and etc.

**Filter By:** you can define which records from the previously selected entity will be fetched by choosing a view from the entity –records will be chosen by the view's filter.

### 3.5.2 Toolbar

**Fetch data button** : after clicking on this button the records will be visualized in a grid in the right part of the geocoding screen. The grid then also gives you the ability to change the information in the fields if (to make corrections to addresses and etc.).

**Find position button** : starts the geocoding process (records need to be selected).

**Find address button** : finds/updates address if only the GPS data is available for the record

### 3.5.3 Usage

After you have fetched the data you can filter it by 5 categories

Select Entity :  

account

Select fields :  
Street :  

address1\_line1

  
☐ Set additional street fields  
City :  

address1\_city

  
State :  

address1\_stateorprovince

  
Postal code :  

address1\_postalcode

  
Country :  

address1\_country

  
Latitude :  

address1\_latitude

  
Longitude :  

address1\_longitude

  
☐ Find position by query

Filter by :  
 ...

Bing Map Key :

Entities

Show:

From In 

select value

Select

Deselect All

Invert Selection

Select

Empty Lat/Lon

New

Changed

Failed

|                          | Street                                        | City          | State | Country | PostalCode | Latitude | Longitude  | Detail       |
|--------------------------|-----------------------------------------------|---------------|-------|---------|------------|----------|------------|--------------|
| <input type="checkbox"/> | 5009 Orange Street                            | Renton        | TX    | U.S.    | 20175      | 31.43491 | -99.30647  | <div>i</div> |
| <input type="checkbox"/> | 100 Red Oak Lane                              | Dallas        | TX    | U.S.    | 20313      | 32.75572 | -96.80871  | <div>i</div> |
| <input type="checkbox"/> | omponents 4405 Balboa Court                   | Santa Cruz    | TX    | U.S.    | 95486      | 27.41412 | -98.26616  | <div>i</div> |
| <input type="checkbox"/> | Affordable Sports Equipment 7995 Edwards Ave. | Lynnwood      | TN    | U.S.    | 58299      | 35.843   | -86.34305  | <div>i</div> |
| <input type="checkbox"/> | All Cycle Shop 9068 Muir Road                 | Los Angeles   | KA    | U.S.    | 20593      | 39.44326 | -98.95734  | <div>i</div> |
| <input type="checkbox"/> | Amazing sports store 3397 Rancho View Drive   | Redmond       | WA    | U.S.    | 90000      | 47.67858 | -122.13158 | <div>i</div> |
| <input type="checkbox"/> | Amuzing bikes 9906 Oak Grove Road             | Redmond       | WA    | U.S.    | 80803      | 47.67858 | -122.13158 | <div>i</div> |
| <input type="checkbox"/> | Another Bicycle Company 2313 B Southampton Rd | Missoula      | TX    | U.S.    | 58047      | 31.43491 | -99.30647  | <div>i</div> |
| <input type="checkbox"/> | Astonishing bikes 2137 Birchwood Dr           | Redmond       | WA    | U.S.    | 78214      | 47.67858 | -122.13158 | <div>i</div> |
| <input type="checkbox"/> | Basic Bike Company 137 Lancelot Dr            | Phoenix       | CA    | U.S.    | 10032      | 38.56117 | -121.7509  | <div>i</div> |
| <input type="checkbox"/> | Best o' Bikes 3421 Gehringer Drive            | Daly City     | IN    | U.S.    | 57457      | 39.9198  | -86.2818   | <div>i</div> |
| <input type="checkbox"/> | Bicycle Accessories and Kits 4915 Pear Dr.    | Newport Beach | IN    | U.S.    | 56373      | 33.73999 | -117.90646 | <div>i</div> |
| <input type="checkbox"/> | Big-Time Bike Store 4650 Franklin Canyon Road | Lebanon       | MA    | U.S.    | 43935      | 42.12551 | -71.49862  | <div>i</div> |
| <input type="checkbox"/> | Bike Boutique 2265 Park Glen Court            | Port Orchard  | NC    | U.S.    | 47349      | 35.74355 | -79.10212  | <div>i</div> |
| <input type="checkbox"/> | Bike Dealers Association 6283 San Marino Ct.  | Bellingham    | IL    | U.S.    | 80437      | 48.75235 | -122.47122 | <div>i</div> |
| <input type="checkbox"/> | Bike Experts 2472 Alexander Place             | West Covina   | TX    | U.S.    | 95626      | 33.88289 | -118.04507 | <div>i</div> |
| <input type="checkbox"/> | Bike Products and Accessories 9830 May Way    | Mill Valley   | CA    | U.S.    | 20313      | 37.97414 | -122.28216 | <div>i</div> |
| <input type="checkbox"/> | Bike Universe 56789 Bright Road               | Round Rock    | TX    | U.S.    | 98928      | 36.10038 | -84.00056  | <div>i</div> |
| <input type="checkbox"/> | Bike-o-maniac store 1398 Yorba Linda          | Seattle       | WA    | U.S.    | 85058      | 47.60356 | -122.32944 | <div>i</div> |
| <input type="checkbox"/> | Bikes unlimited 8290 Margaret Ct.             | Seattle       | WA    | U.S.    | 89764      | 47.86952 | -122.69112 | <div>i</div> |
| <input type="checkbox"/> | Black Sports Goods 825 Coral Way              | Miami         | FL    | U.S.    | 33155      | 25.74924 | -80.27207  | <div>i</div> |
| <input type="checkbox"/> | Blue Bicycle Company 1286 Cincerto Circle     | Lake Oswego   | FL    | U.S.    | 53502      | 45.4549  | -122.86282 | <div>i</div> |

Selected: 0 | Key: •New •Unmodified •Changed •Failed

**All** – shows all records

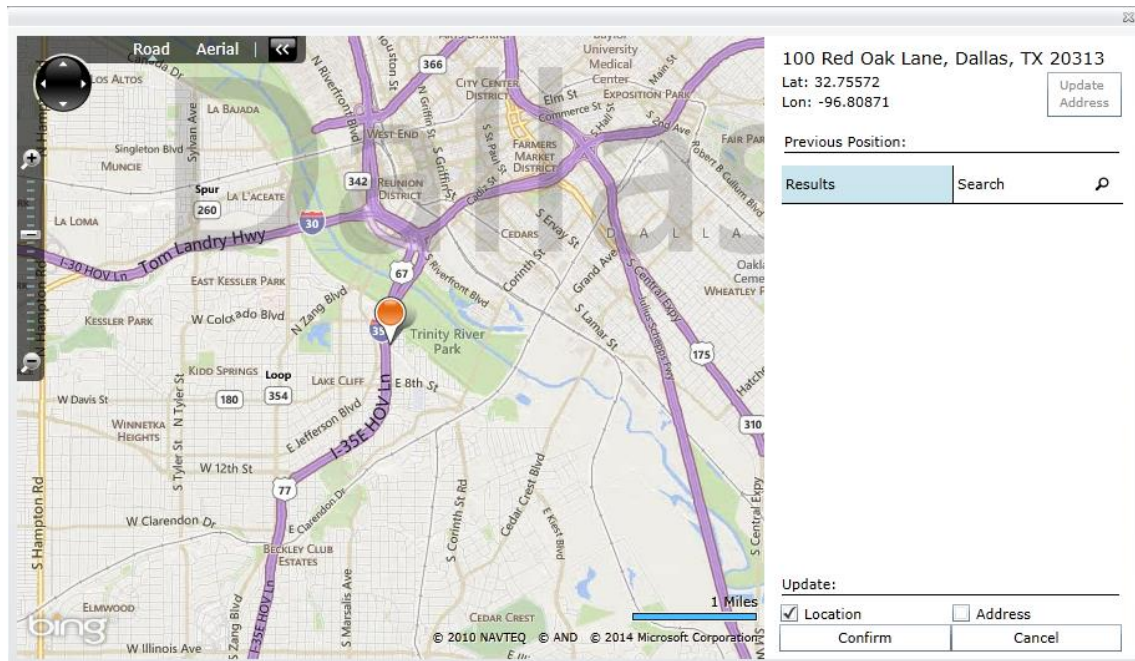
**New** – shows those records which received the GPS coordinates after geocoding (after the Find position button was activated) and didn't have any prior GPS information (green font color)

**Changed** – shows those record, which GPS coordinates have been updated – they had GPS information prior geocoding (blue font color)

**Failed** – records which have failed to geocode (red font color)

**Empty Lat/Lon** – records which have no GPS data prior geocoding (red font color).

By clicking on the „i“ button you can open a detail view on the record



**Results** – you can see results which Bing map provided

**Search** – you can manually search by your own criteria

**Update / Location checkbox** – will update the GPS data after clicking on the Confirm button

**Update / Address checkbox** – will update the address

**Note** – the map pin can be moved manually by dragging it across the map to enhance the accuracy of the GPS coordinates

## 3.6 Plugins

Plugins provides functionality, for which you need to configure some additional settings. Enabling will allow the tracking of some operation like delete, N:N relationship disassociation and record owner change on the server. Without enabling the tracking the changes will not be propagated to the clients. Only changes made after the tracking was enabling will be propagated to the mobile clients. Entries deleted before enabling the tracking will not be propagated on the mobile clients.

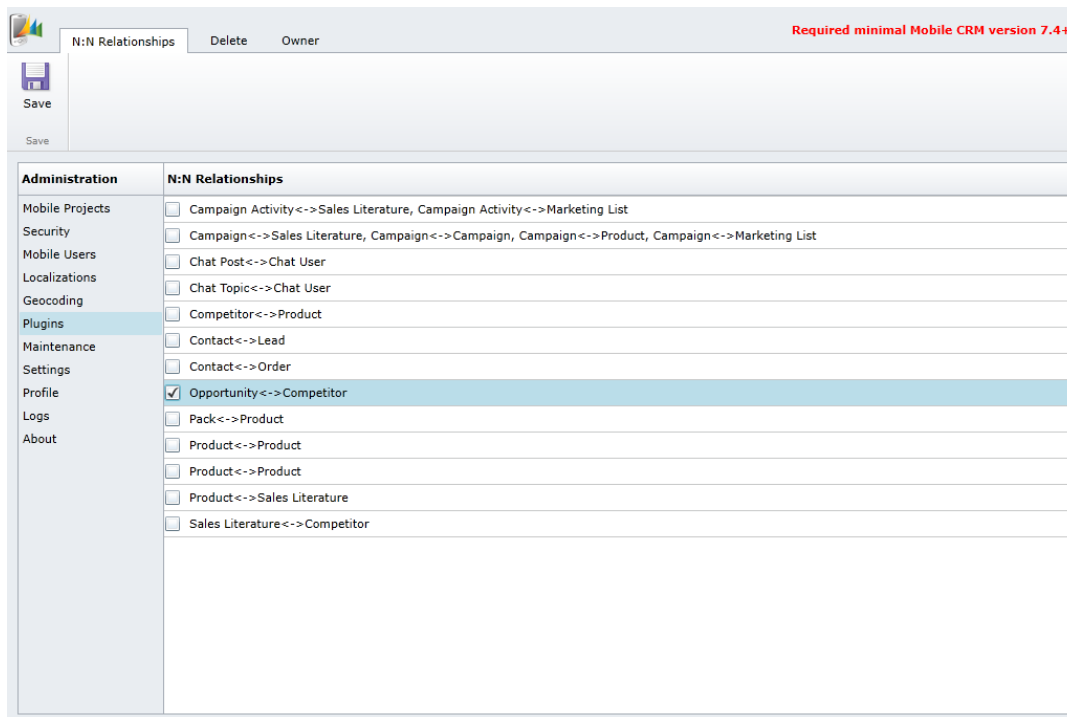
After enabling the Delete plugin there is a need to perform full synchronization on each device, to get the latest data without the previously deleted ones. To perform a full synchronization on a device, go to Mobile CRM app's Setup -> Delete Data and synchronize the client to perform it. Or you can use the Woodford's Security section to Force Full Sync Mobile CRM app at next synchronization on selected device (section 3.2 of this manual).



**Note:** *Plugins are available only for Microsoft Dynamics CRM 2011& 2013*

### 3.6.1 N:N Relationships

The N:N relationship will disassociate the relationship between entities. First you have to check the relations of the entities that you want to be able to customize. In this case we will enable the Competitor <=> Product N:N Relationship



Then open the desired project and enable the Competitor->Product relation as you will enable an Entity. Of course both entities have to be enabled as well.

Project: My first test

Required minimal Mobile CRM version 7.4+

Publish Version: Version 7.30

Enable, Disable, Save, Validate, Publish, Entity

Entity: Competitor<->Product

Display Name: Competitor<->Product

Name: CompetitorProduct

Mode: Online & Offline

Conflict Strategy: Server Wins

Permissions: ☒ Read ☒ Write ☒ Create ☒ Delete

Advanced Properties: ☐ Include Lookup Labels

| Display Name | Name         | Type   | Permissions |
|--------------|--------------|--------|-------------|
| competitorid | competitorid | Lookup | R--         |
| productid    | productid    | Lookup | R--         |

Field Properties:

Permissions: ☒ Read ☐ Create ☐ Update

Requirement Level: None

Lookup Targets: ☒ Competitor [Competitor]

Description:

Then you can add the Products list to the Competitor's edit form. And the Competitor list to the Product's entity. Then you can add competitors to the products on the Competitor's tab.

Form: Competitor [competitor]\Default

Required minimal Mobile CRM version 7.4+

Save, Save & Close, Add Field, Add Image, Add Spacer, Edit Styles, Add Detail, Add List, Add IFrame, Add Map, Add Media, Add Wall, Move Up, Move Down, Delete, Rename, Properties, Layout, On Load, On Change, On

Properties:

Binding: product.compet

Side: Right

Header: Icon & Label

Width: Normal

Height: 2

Orientation: Horizontal

Designer:

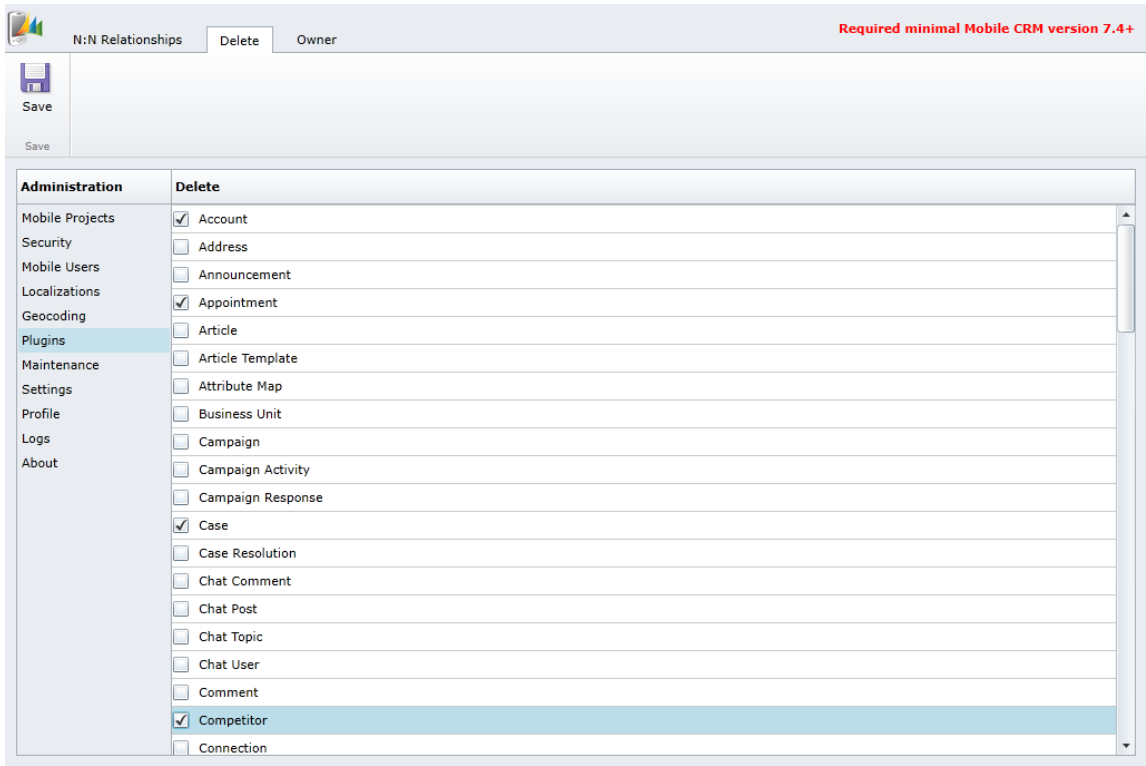
Field Explorer:

- General
- Products List (Many)
- Address

### 3.6.2 Delete

Enabling the delete functionality, the changes made on the server will be tracked. When you check an entity in this plugin, when an item from the entity will be deleted on the server, the change will also be

applied on the device, thus the item will be deleted from the local database on the device on the next sync.



### 3.6.3 Owner

Enabling the tracking on the entity will enable changing the item's owner on the client according to the server change.

Required minimal Mobile CRM version 7.4+

N:N Relationships Delete Owner

Save

Save

| Administration  | Owner                                           |
|-----------------|-------------------------------------------------|
| Mobile Projects | <input checked="" type="checkbox"/> Account     |
| Security        | <input type="checkbox"/> Address                |
| Mobile Users    | <input checked="" type="checkbox"/> Appointment |
| Localizations   | <input type="checkbox"/> Business Unit          |
| Geocoding       | <input checked="" type="checkbox"/> Campaign    |
| Plugins         | <input type="checkbox"/> Campaign Activity      |
| Maintenance     | <input type="checkbox"/> Campaign Response      |
| Settings        | <input type="checkbox"/> Case                   |
| Profile         | <input type="checkbox"/> Case Resolution        |
| Logs            | <input type="checkbox"/> Chat Comment           |
| About           | <input type="checkbox"/> Chat Post              |
|                 | <input type="checkbox"/> Chat Topic             |
|                 | <input type="checkbox"/> Chat User              |
|                 | <input type="checkbox"/> Connection             |
|                 | <input checked="" type="checkbox"/> Contact     |
|                 | <input type="checkbox"/> Contract               |
|                 | <input type="checkbox"/> Contract Line          |
|                 | <input type="checkbox"/> CustomEntity           |
|                 | <input type="checkbox"/> Customer Relationship  |
|                 | <input type="checkbox"/> Discount               |

For things to work properly you might also need to enable the **User** entity as in the screenshot below.

Required minimal Mobile CRM version 7.4+

Project: My first test

Publish Version Version 7.30

Enable Disable Save Sync Filter

Publish All Validate Publish Entity

Entity

Display Name User

Name SystemUser

Mode Online & Offline

Conflict Strategy Server Wins

Permissions ☒ Read ☒ Write ☒ Create ☒ Delete

Advanced Properties ☐ Include Lookup Labels

Fields

| Display Name                                        | Name                        | Type                  | Permis |
|-----------------------------------------------------|-----------------------------|-----------------------|--------|
| <input type="checkbox"/> Access Mode                | AccessMode                  | Option Set            | RCU    |
| <input type="checkbox"/> Address 1: Address Type    | Address1_AddressTypeCode    | Option Set            | RCU    |
| <input type="checkbox"/> Address 1: County          | Address1_County             | Single Line of Text   | RCU    |
| <input type="checkbox"/> Address 1: Fax             | Address1_Fax                | Single Line of Text   | RCU    |
| <input type="checkbox"/> Address 1: ID              | Address1_AddressId          | Primary Key           | RCU    |
| <input type="checkbox"/> Address 1: Latitude        | Address1_Latitude           | Floating Point Number | RCU    |
| <input type="checkbox"/> Address 1: Longitude       | Address1_Longitude          | Floating Point Number | RCU    |
| <input type="checkbox"/> Address 1: Name            | Address1_Name               | Single Line of Text   | RCU    |
| <input type="checkbox"/> Address 1: Post Office Box | Address1_PostOfficeBox      | Single Line of Text   | RCU    |
| <input type="checkbox"/> Address 1: Shipping Method | Address1_ShippingMethodCode | Option Set            | RCU    |
| <input type="checkbox"/> Address 1: UIC Zone        | Address1_UICZone            | Single Line of Text   | RCU    |

Field Properties

Permissions ☒ Read ☒ Create ☒ Update

Requirement Level System Required

Options Read-Write [0] Administrative [1] Read [2] Support User [3] Non-interactive [4]

Default 0

Description Type of user.

4/107 Selected

### 3.7 Profile

When you connect Woodford to your CRM environment for the first time, you are asked to fill in the profile information. This information helps us to identify you when you need our help. If you made a mistake at entering the information, or you need to change anything, you can do so in this section.

Profile

Required minimal Mobile CRM version 7.4+

Save

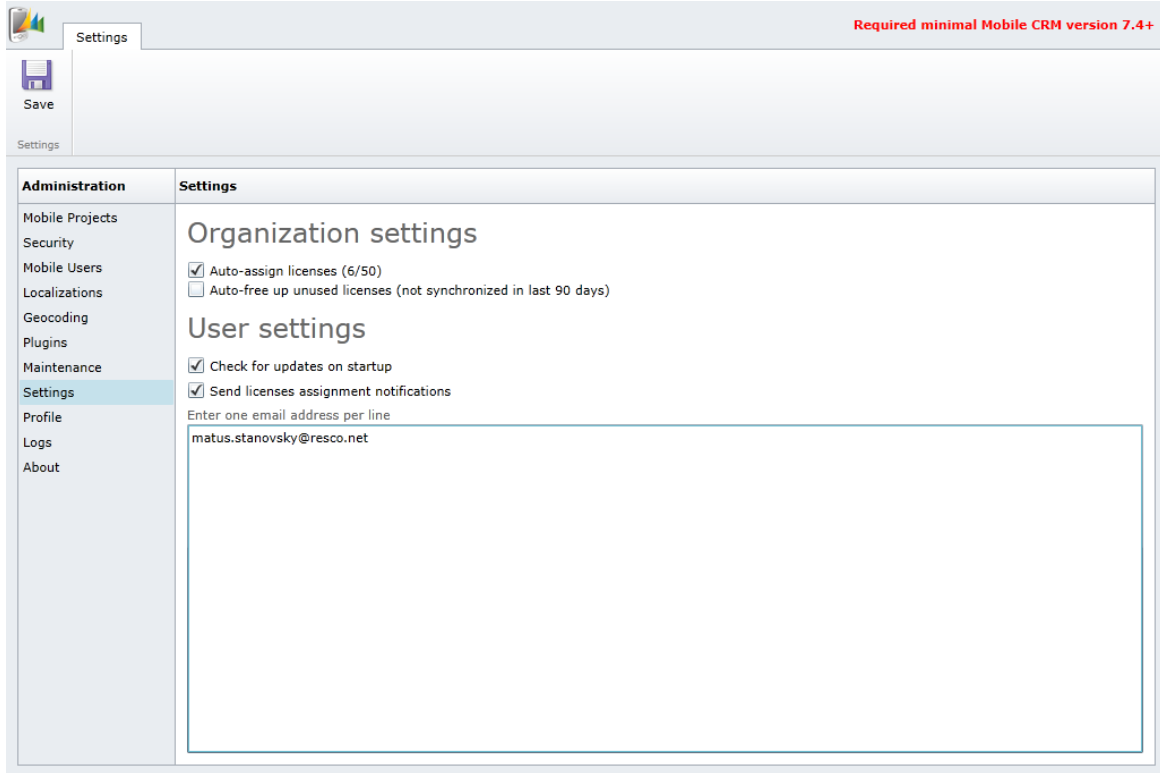
Profile

| Administration  | Profile                                                                                                                   |
|-----------------|---------------------------------------------------------------------------------------------------------------------------|
| Mobile Projects | Fill in your contact details below. These details help us to provide better quality support and track your support cases. |
| Security        | Please make sure that you entered a valid email address. Otherwise we will be not able to answer you requests.            |
| Mobile Users    |                                                                                                                           |
| Localizations   | Email: <input type="text" value="matus.stanovsky@resco.net"/>                                                             |
| Geocoding       | Company: <input type="text" value="Matus"/>                                                                               |
| Plugins         | First Name: <input type="text" value="Matúš"/>                                                                            |
| Maintenance     | Last Name: <input type="text" value="Stanovský"/>                                                                         |
| Settings        | Job Title: <input type="text" value="support"/>                                                                           |
| Profile         | Phone: <input type="text" value="+42190356563411"/>                                                                       |
| Logs            | Country: <input type="text" value="SVK"/>                                                                                 |
| About           |                                                                                                                           |

### 3.8 Settings

When you keep the option Auto assign licenses checked, each user that will log into the CRM using a mobile device, will be granted a license to use the Woodford customization. If you disable this option, you will have to go to the Mobile Users administration and manually change the state from Pending to Enabled. Until that time the user will not be able to use the Woodford customization. You can also see the amount of available/total licenses.

If you check the Send licenses assignment, you will receive license assignment notification to the email, that you specified in Profile, and you can add additional email addresses which will also receive notification about assigned licenses.



### 3.9 Logs

If you will encounter an error with the Resco Mobile CRM Woodford, you can check it, or send us the error log. This will help us locate the problem and fix it, or help you solve it.



Logs

Required minimal Mobile CRM version 7.4+

Details

Delete

Delete All

Send

Send All

Logs

Administration

Mobile Projects

Security

Mobile Users

Localizations

Geocoding

Plugins

Maintenance

Settings

Profile

Logs

About

Logs

Refresh

1 2

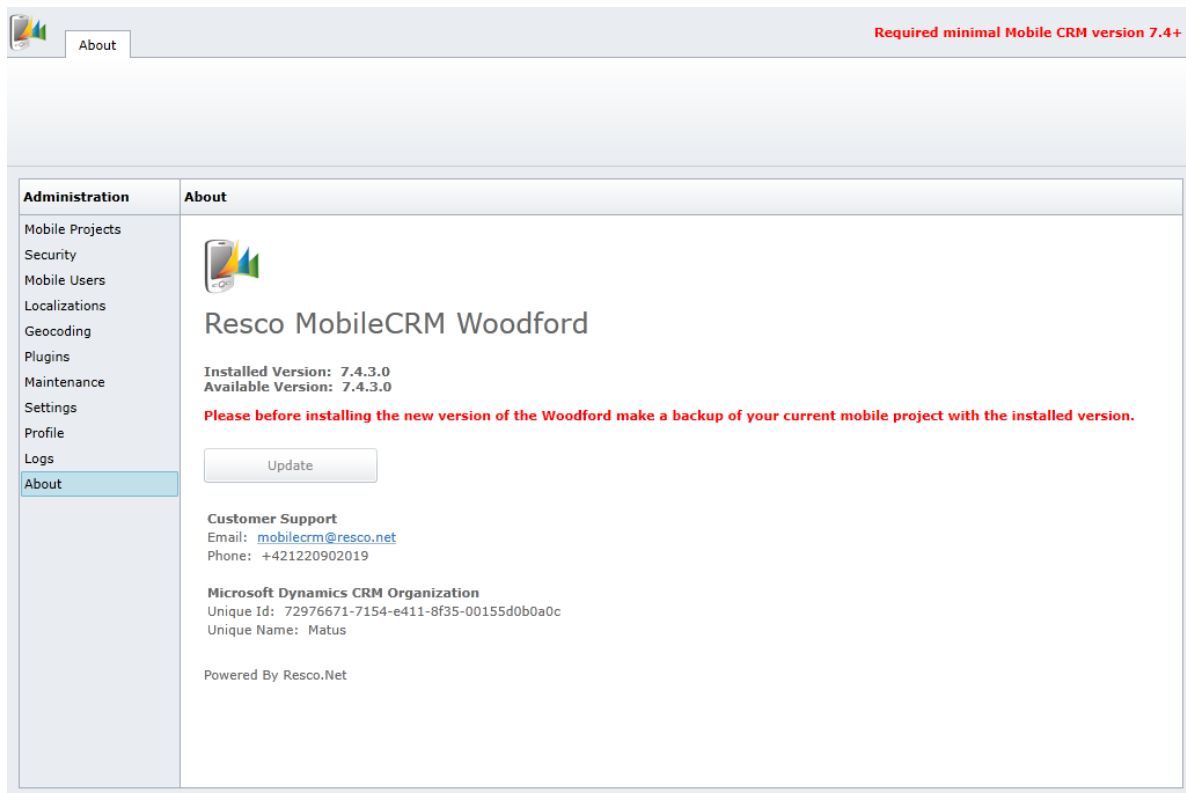
| Date Time            | Title                                                                                                                                                              |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1/12/2015 3:01:14 PM | Localizations: Duplicate key error<br>id: product.productid.product<br>english: Products<br>template:<br>isAutoGenerated: True<br>isProjectEnabled: False          |
| 1/12/2015 2:56:59 PM | Localizations: Duplicate key error<br>id: product.productid.product<br>english: Products<br>template:<br>isAutoGenerated: True<br>isProjectEnabled: False          |
| 1/12/2015 2:56:34 PM | Localizations: Duplicate key error<br>id: product.productid.product<br>english: Products<br>template: Products<br>isAutoGenerated: True<br>isProjectEnabled: False |
| 1/8/2015 10:29:49 AM | Localizations: Duplicate key error<br>id: product.productid.product<br>english: Products<br>template: Products<br>isAutoGenerated: True<br>isProjectEnabled: False |
| 1/7/2015 5:07:51 PM  | Localizations: Duplicate key error                                                                                                                                 |

### 3.10 About

On the About section you can use the Update button when the update is available. You can also check the version and our contact information here. This only takes into account if you are using the standalone Woodford application. In case you are using the integrated version, you need to download a new solution file and import it.

On the About screen you can also see the Unique ID and Unique Name (Organization Name) that are needed if you will be communicating with us about mobile user licenses.

***!Disclaimer:*** *We highly recommend to create a backup of your projects before each upgrade of the Woodford (both, Standalone and Integrated)*



## 4 Creating a customization

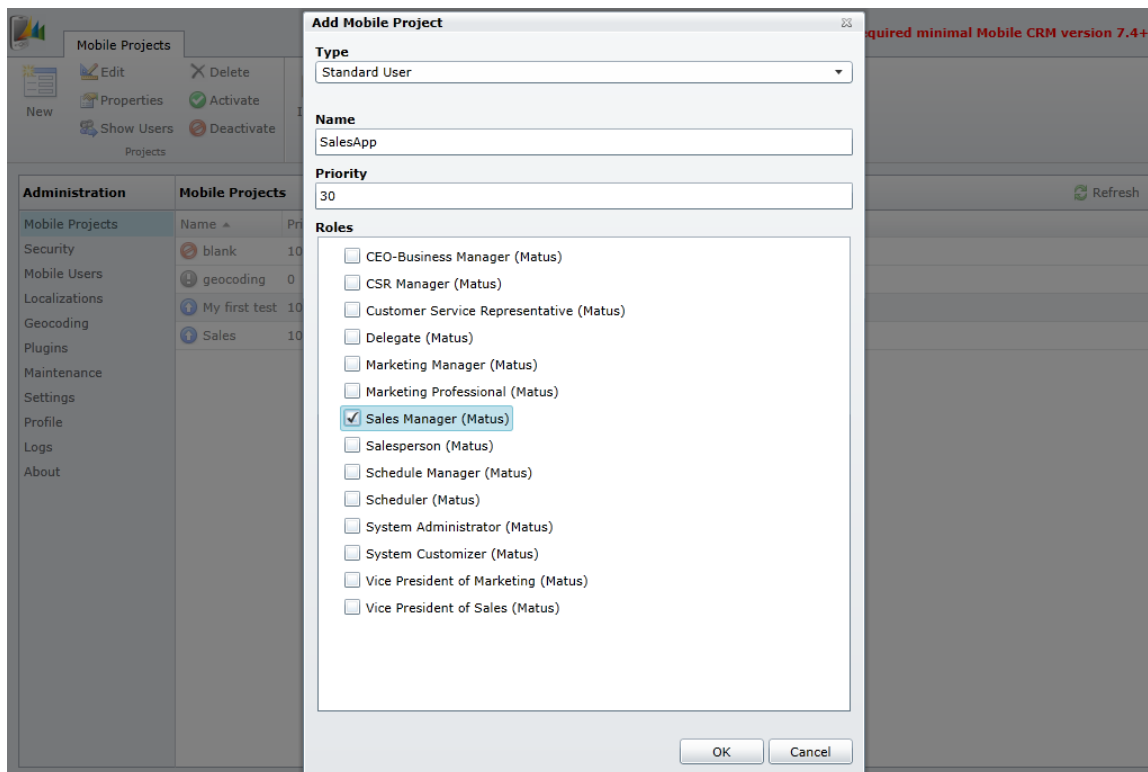
### 4.1 Creating a new project

We will create a new Standard User project, where we will customize the Resco Mobile CRM mobile application by adding an entity, creating views, forms, charts and creating filters to get only the data we need and sort them. More information about different type of projects can be found in Advanced Topic section.

Click New (in the Main Menu) to add a new project. We can name the project (e.g. SalesApp), pick up one or more roles for which the project will be used (Salesperson in our case) and we also have the option to assign the project a priority. Priority is useful if one user has more roles, to which exists a mobile project.

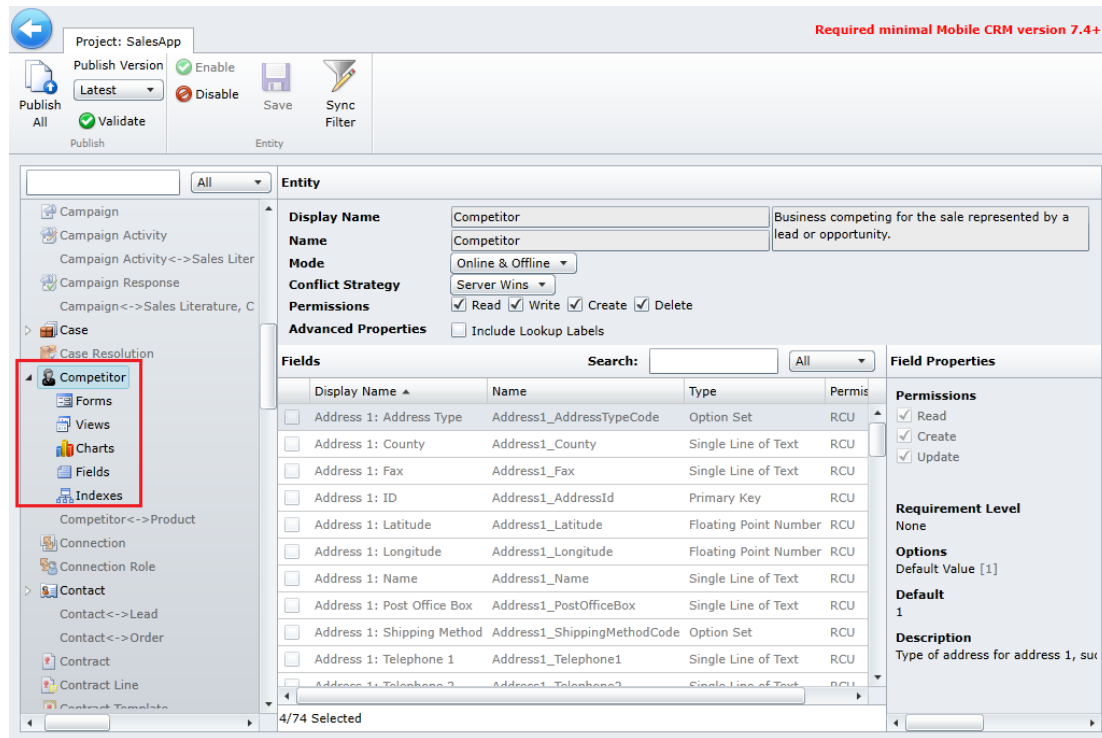
For example, let's assume you have Sales Person and Sales Manager security roles with different permissions. But because Sales Manager needs to have access to Sales Person data, they have both roles assigned. So if you will create a project for Sales Person and Sales Manager, both with priority 0, Sales Person will get the correct project (as each sales guy has only one role assigned), but for manager, it is not determined. But if you will increase the priority of Sales Manager project, let say to 1 or higher, the project for Sales Manager role, in this case with the highest priority, will be used. So at the end, it will not affect any sales person, but it will manage to get the sales manager the correct project.

Let's put there "30" to make sure this one will be always used.



Click OK and now we can start editing the SalesApp project.

Click Edit (in the Main Menu) while having the SalesApp project selected. You now have a list of all available entities from your Dynamics CRM server on the left. Look for Competitor entity, click on it, click on the green **Enable** button in the top toolbar to make it available in our project and Save the change.



Other parameters include

**Mode** – If set to Online only, the data for the entity will only be available in the app’s Online Mode. If set to Online & Offline – the data of course will be available for both modes

**Conflict Strategy** – this is for cases when there the server and the mobile app want to modify data at the same time. Either you can set it to that the Server always wins this conflict or Device wins or it let’s the user decide (User Action).

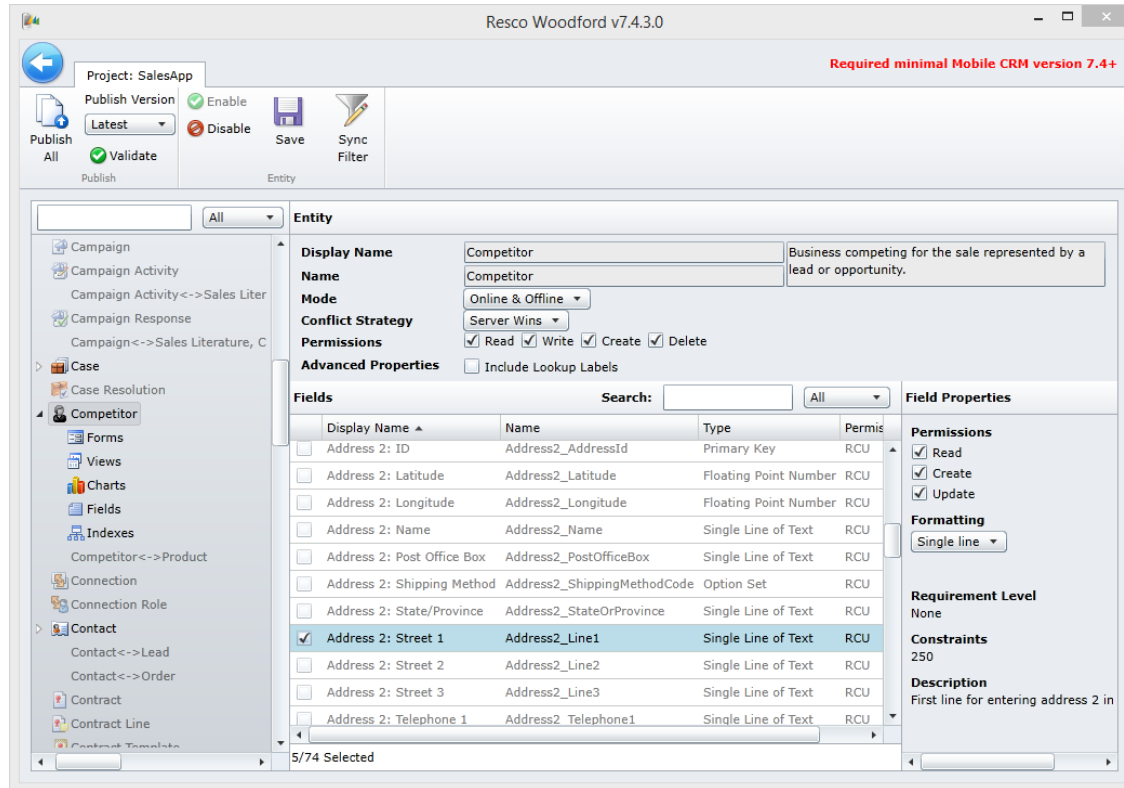
**Permissions** – you can set the Read, Write, Create and Delete permission for the whole entity.

**Advanced Properties** – when the **Include Lookup Labels** is checked, the app will no longer show related data to that entity as “Unknown” in the offline mode. This often happened with ownerID’s of records as the data with User names is stored in the User entity (by default the Owner entity is not enabled in Woodford).

Now, as the Competitor entity is activated (it has changed into full color icon), we have the option to expand it, and see the five items that will roll down: **Forms, Views, Charts, Fields** and **Indexes**.

## 4.2 Fields

After enabling an entity, it's best to start enabling and customizing the Fields. I pick up some additional fields I want to use in my mobile project: City, Country/Region, Street and ZIP/Postal Code. Here you can also enable the custom fields for the entity.



You can configure the **Formatting** of a field – this affects the appearance of the fields in the Forms.

**Single line** – field is formatted to have the appearance of a single line field in the mobile app

**Multiline** – field will have the appearance of a multiline field

**Email** - the field in the mobile app will have an action button that after activating will give the user an opportunity to immediately create an email

**Phone number** – the field will have an action button that will activate the phone call function on the device (the device will dial the number contained in the field)

**URL** – an action button to open the URL in the native browser of the device will be available

**Barcode** – action button activates a camera so user can scan Barcodes and QR codes. *Function will only work on devices that have a camera with Autofocus.*

**HTML** – will format the text field into a HTML type (bodies of email, signatures and etc.).

Also you can configure the **Permissions** on the fields to either enable/disable the **Read, Create** or **Update** permission.

***Note:** The functionality of the Add Images to the entity will be explained in the Advanced Topic section of this manual – 5.2.*

***Warning:** If you disable any previously enabled Field, please check the existing Views and Forms and remove any Fields or Lists that are represented by the sign “Invalid”, or enable the correspond Field so that the Field will no longer be listed as Invalid. If there will be any Invalid Field or List in the Form or View, the application will crash when you will try to open an entity list or record details.*

#### **4.2.1 Best practice when disabling field**

When you disable a field, that is used somewhere in the application, Mobile CRM application can crash when you access view or form, where this field was used. To avoid this situation, you should keep in mind these steps.

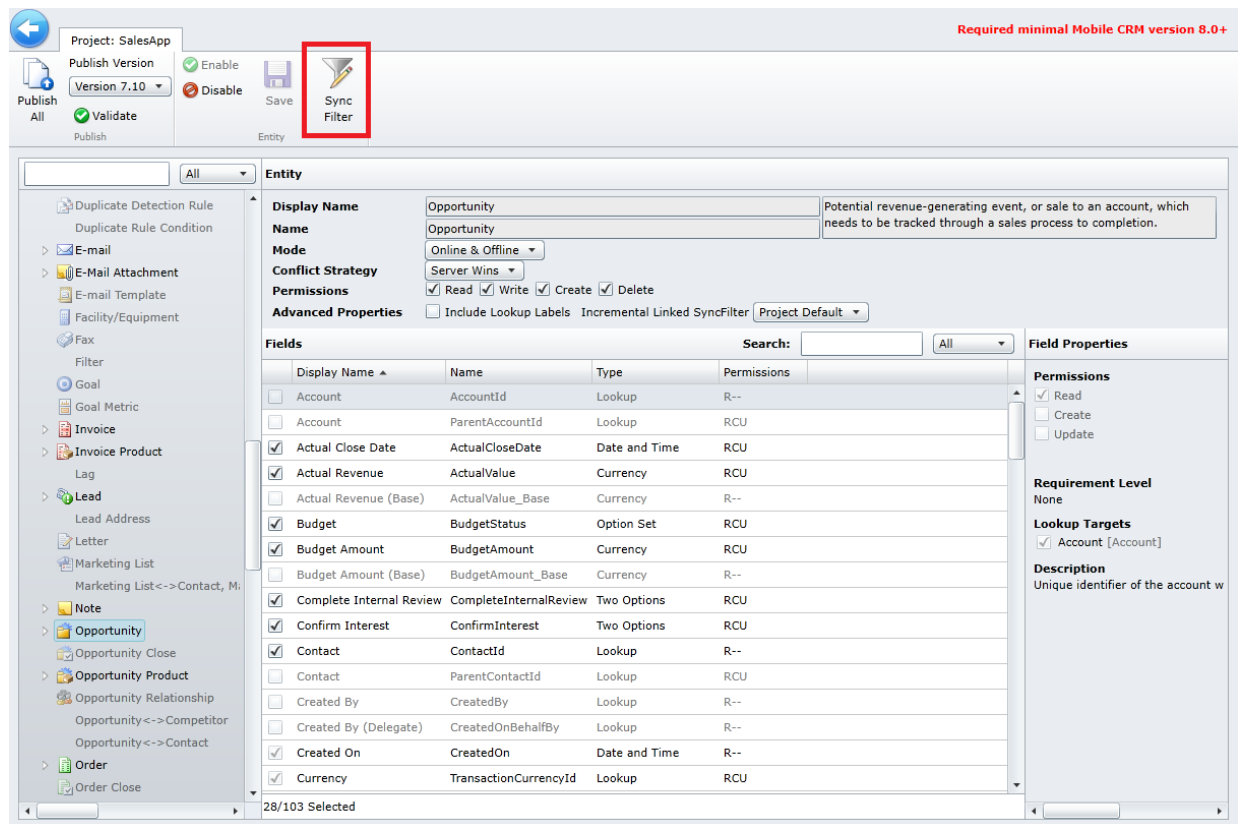
When you want to disable a field that is enabled in the entity, first remove the reference of this field from each view, form or chart. Also from other entity views, where you used this field. To do so, you need to use the Select Fields option in View and disable this field from the view. Same applies on the Chart. Using Select fields you need to remove the field from the view.

On form, you just need to delete the field from the form. Then, you can disable the field, and it will not be used in Mobile CRM application. Any change in fields (enabling/disabling a field) will cause a full sync on this entity.

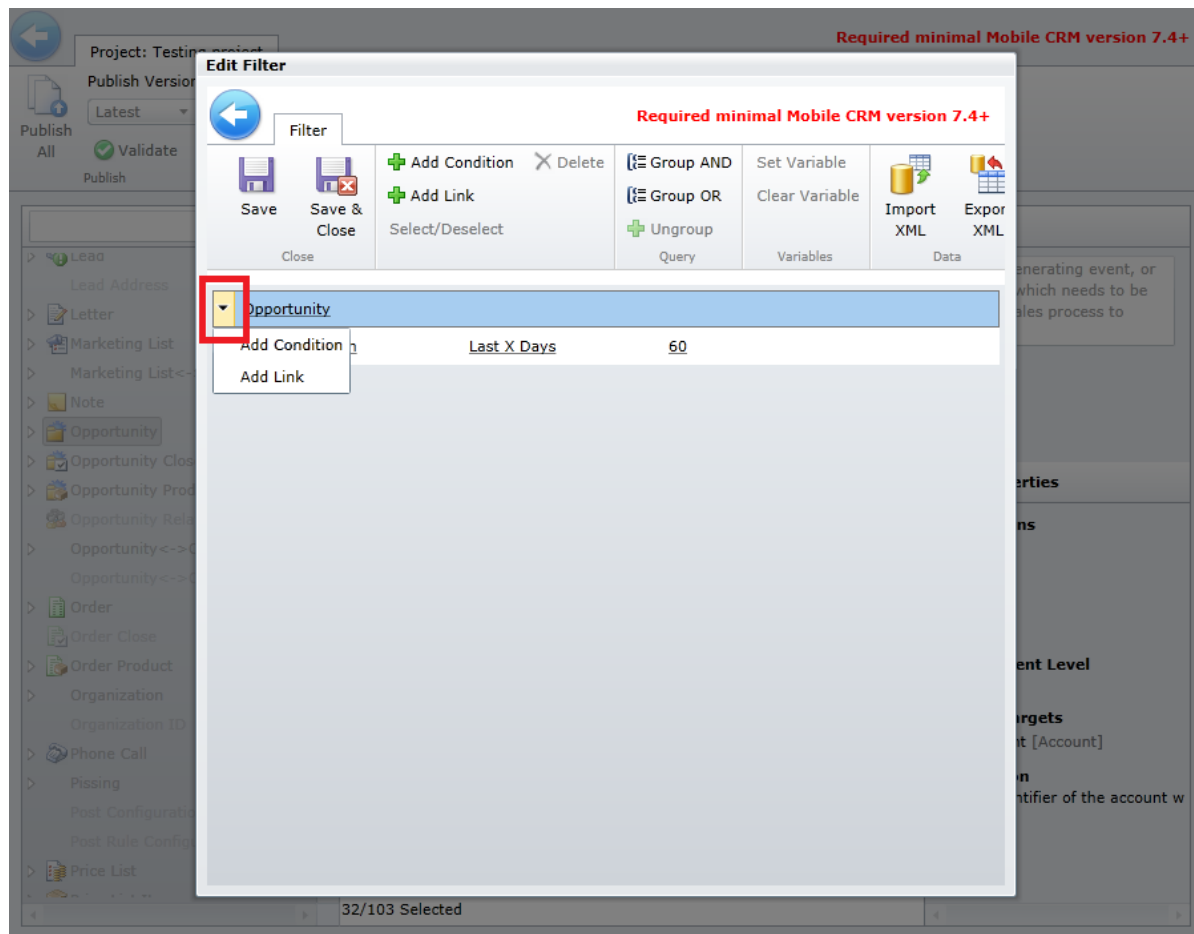
Special case is, when you want to remove a field from the CRM server. If this field is enabled and used on the Mobile CRM application, first perform the above steps, let users synchronize and tell them not to make changes to data, and after they all synchronize, remove the field, publish the project and ask users to synchronize. Only this way you prevent problems, when users make changes to field, you want to remove. The problem that can occur is that server will report an error when Mobile CRM app will try to update/fill in a field that no longer exists on the CRM server.

#### **4.3 Setting up a Sync Filter**

By setting up the Sync Filter we define a condition for the CRM database entities (rows) which will be synced to your mobile device. Please bear in mind the capacity of mobile devices. In this example we set up a Sync Filter for opportunities that were created within the last 120 days.



Select the entity from the list on the left, for which you want to define the Sync Filter. Then click the **Sync Filter** button (red square).



Click the black little arrow next to the Opportunity to expand the box. Select „**Add Condition**“, and select the desired field. Then define the condition and add the value.

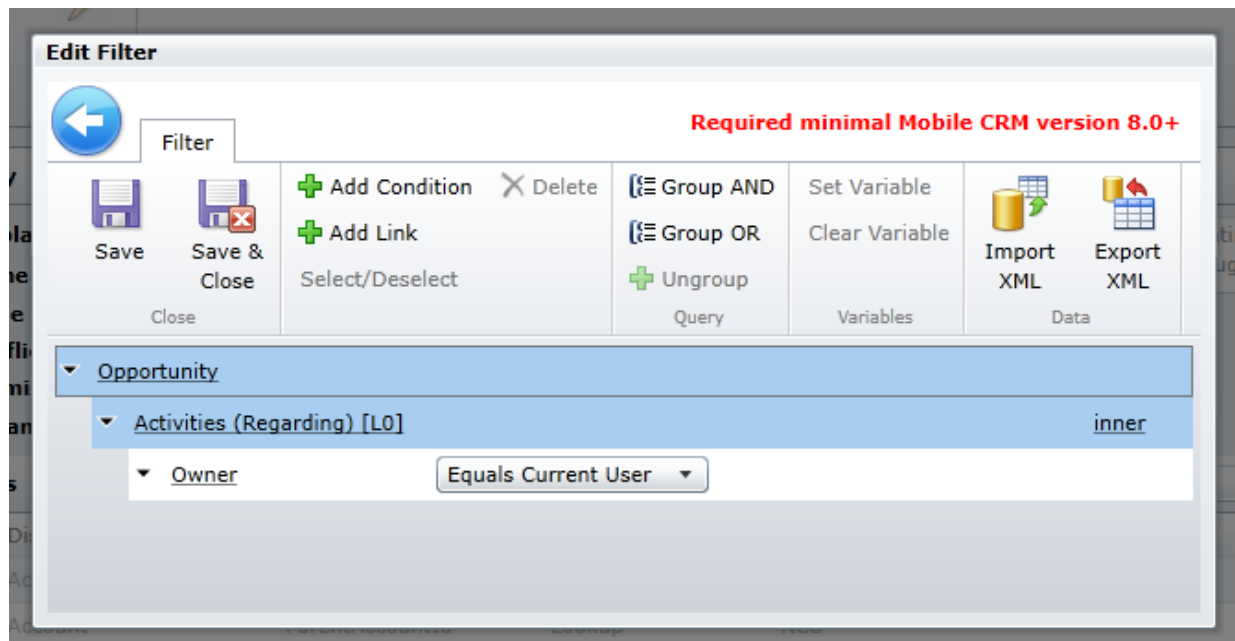
Don't forget to click Save/Save & Close the changes.

#### 4.3.1 Linked sync filters

If you run on CRM server version 2013 SP1 or later, you can use the advantage of the linked filters, that will work not only on initial/full synchronization, but also on incremental synchronization. If not, from the incremental synchronization definition, only records, that are changed will be included.

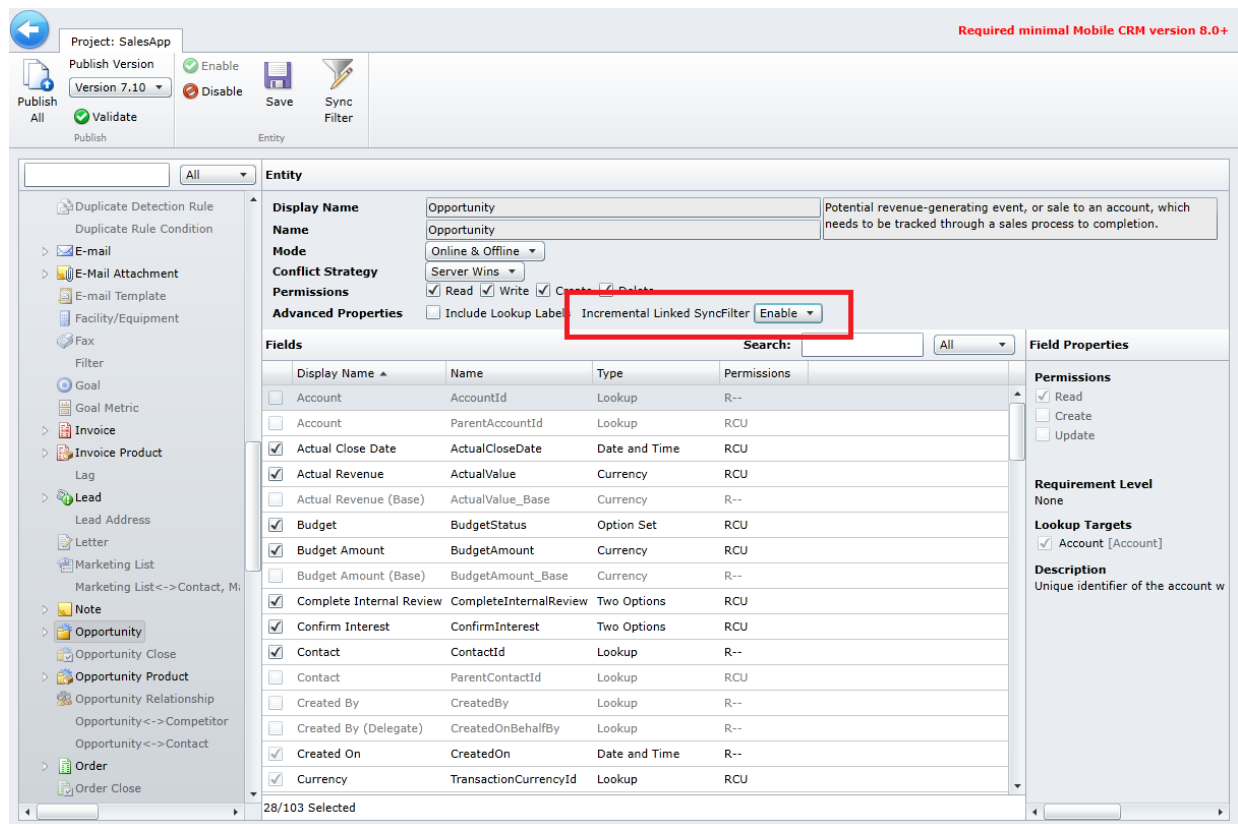
To create a linked filter, you just need to add a link to the associated entity. In this example I want to synchronize only Opportunities, that are associated with account records owned by the user.

So I create a synchronization filter like this



As is written above, if you are running CRM 2011 or CRM 2013 (without Service Pack), this filter will work only at incremental/full synchronization. So if a new account will be assigned to user, its opportunities will not be downloaded.

So, if you want to use the advantage of this feature also at incremental synchronization, all you need to do is to enable the use of “Incremental Linked SyncFilter” for the entity.

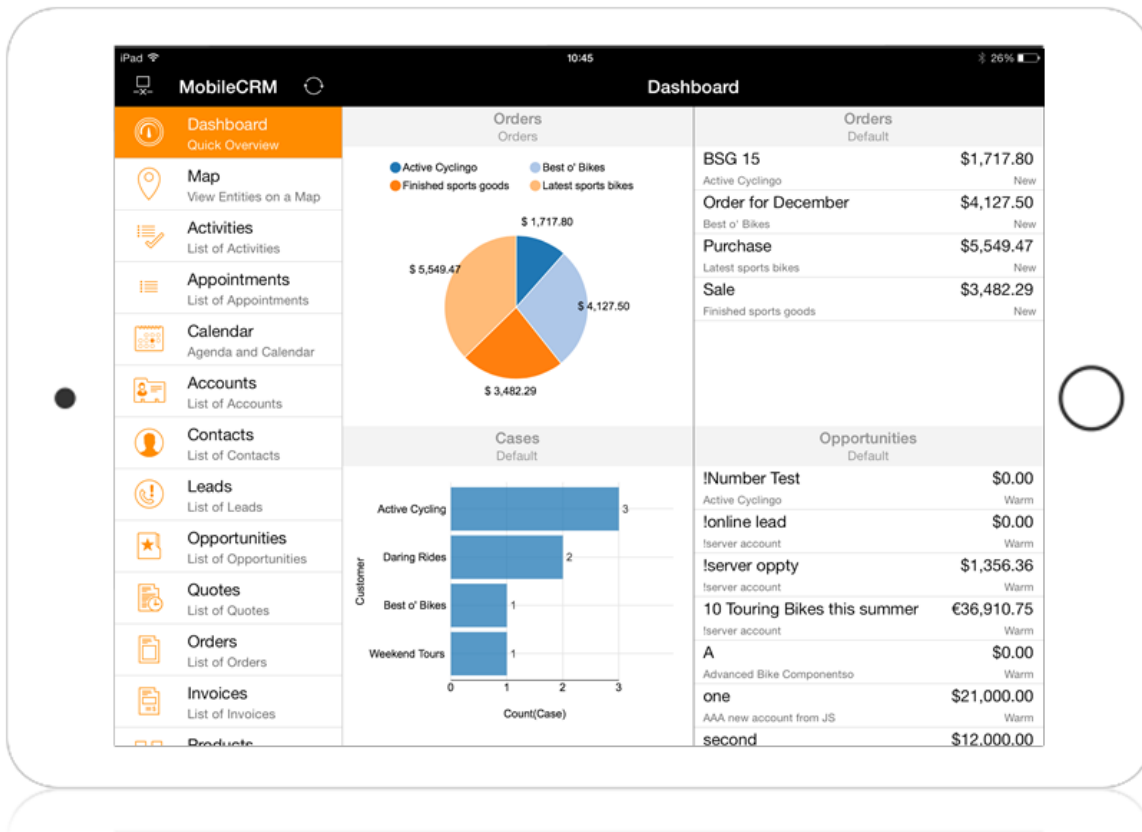


It can be enabled by default in the project's Configuration, but it is not recommended as such filter will create a complex query, that might increase server load. So we recommend to enable this option on per entity basis.

## 4.4 Views

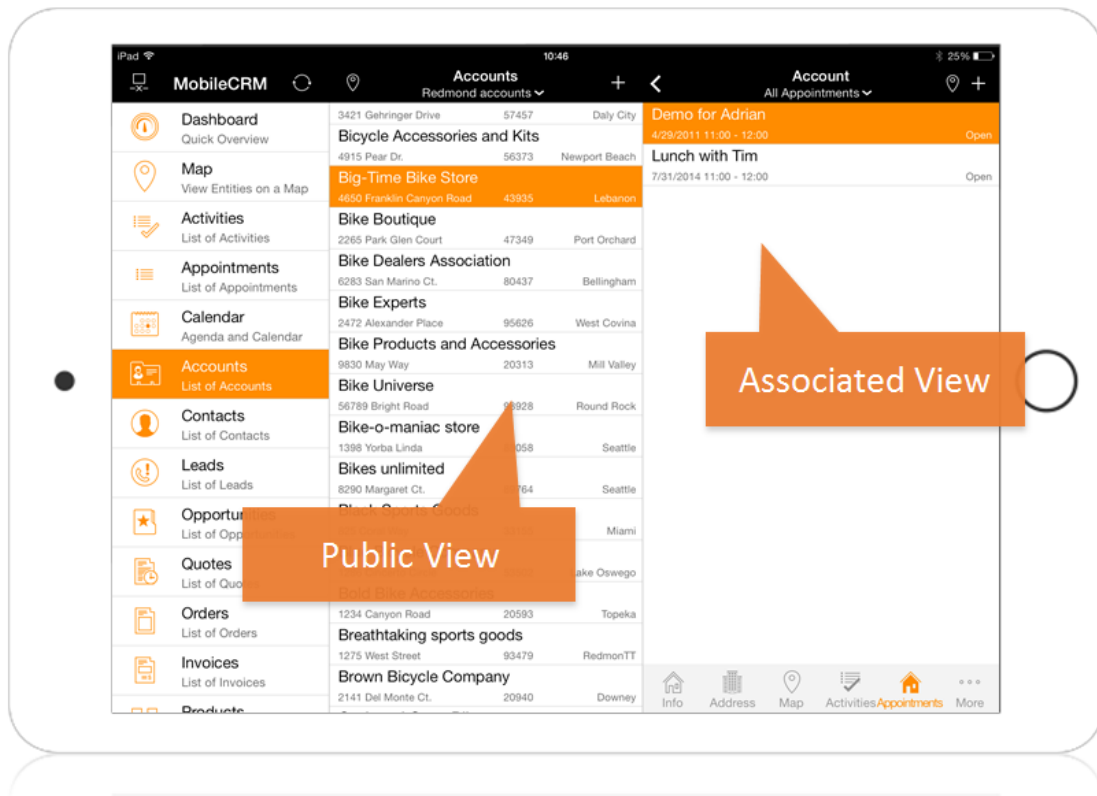
Picture bellow shows the view types.

The **Dashboard view** shows views and charts that we designed and defined for the entities.

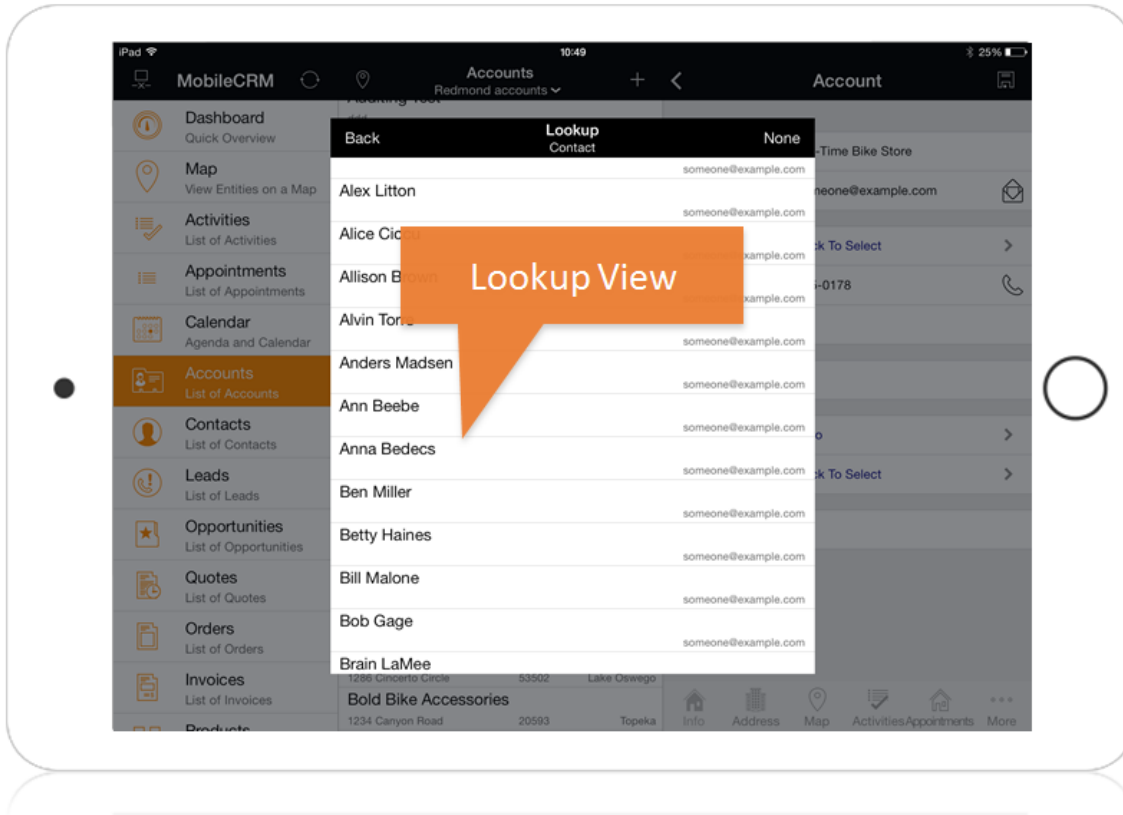


The **Public View** displays the selected entity's list of records.

The **Associated View** shows the list of items from the associated entity that are relevant for the selected item and entity.



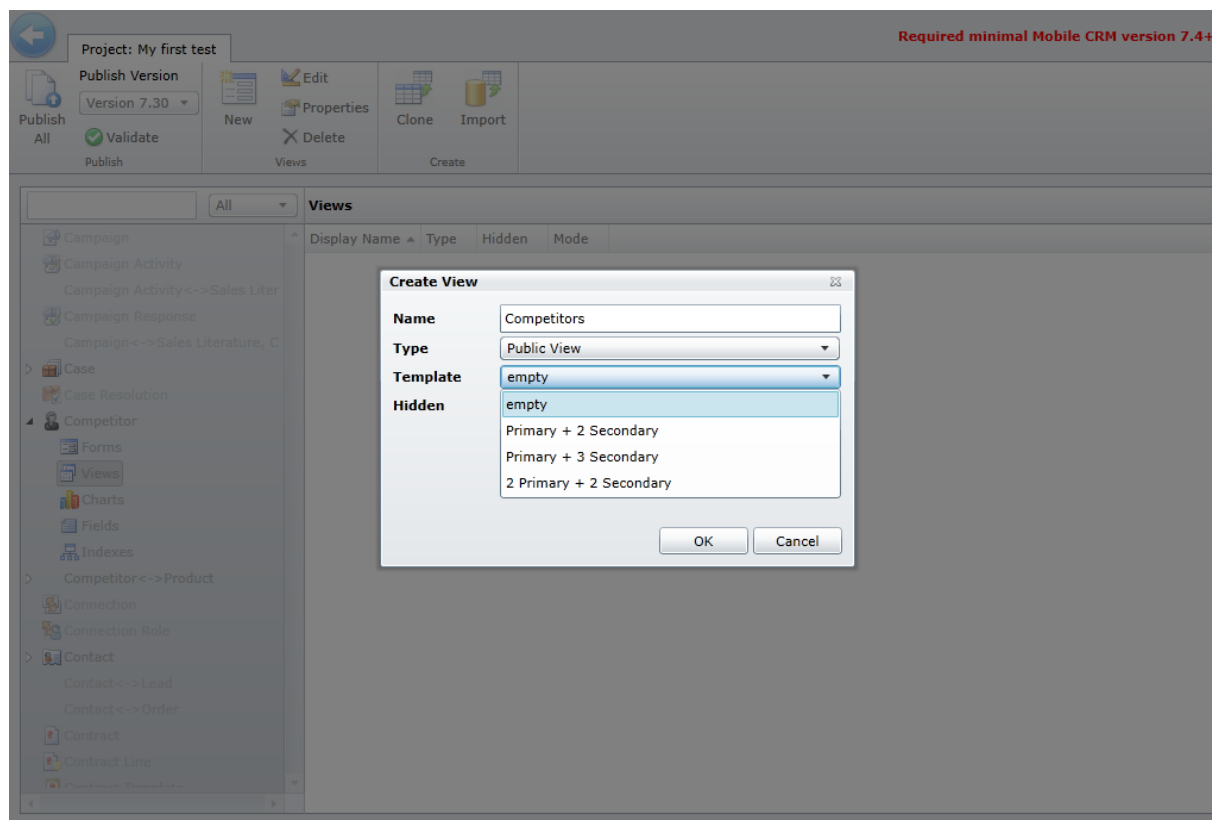
The **Lookup View** shows the list of items from the entity that should be inserted to the form.



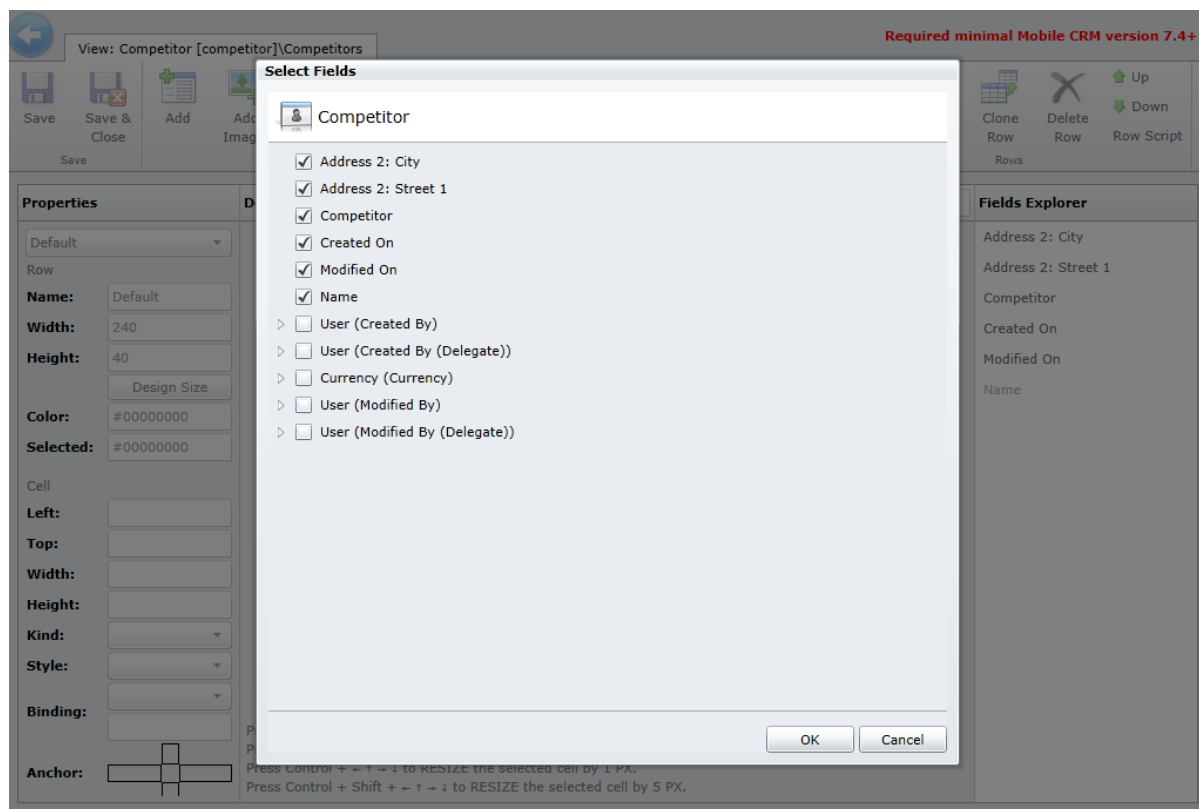
**Note:** If a custom Associated View, Lookup View or Dashboard View is not created, then the Public View is being used.

#### 4.4.1 Creating a Public view

To create a new Competitor's public View please click **Views** under Competitor's entity and then **New** in the Main Menu. I named the view Competitors. I can select one of the 4 types of view: Public, Associated, Lookup and Dashboard View. In this case, I pick up the Public view and choose a Primary + 2 Secondary Template. We can choose any of the templates or proceed with empty one and design it our own way, but please bear in mind the screen size of a mobile device.

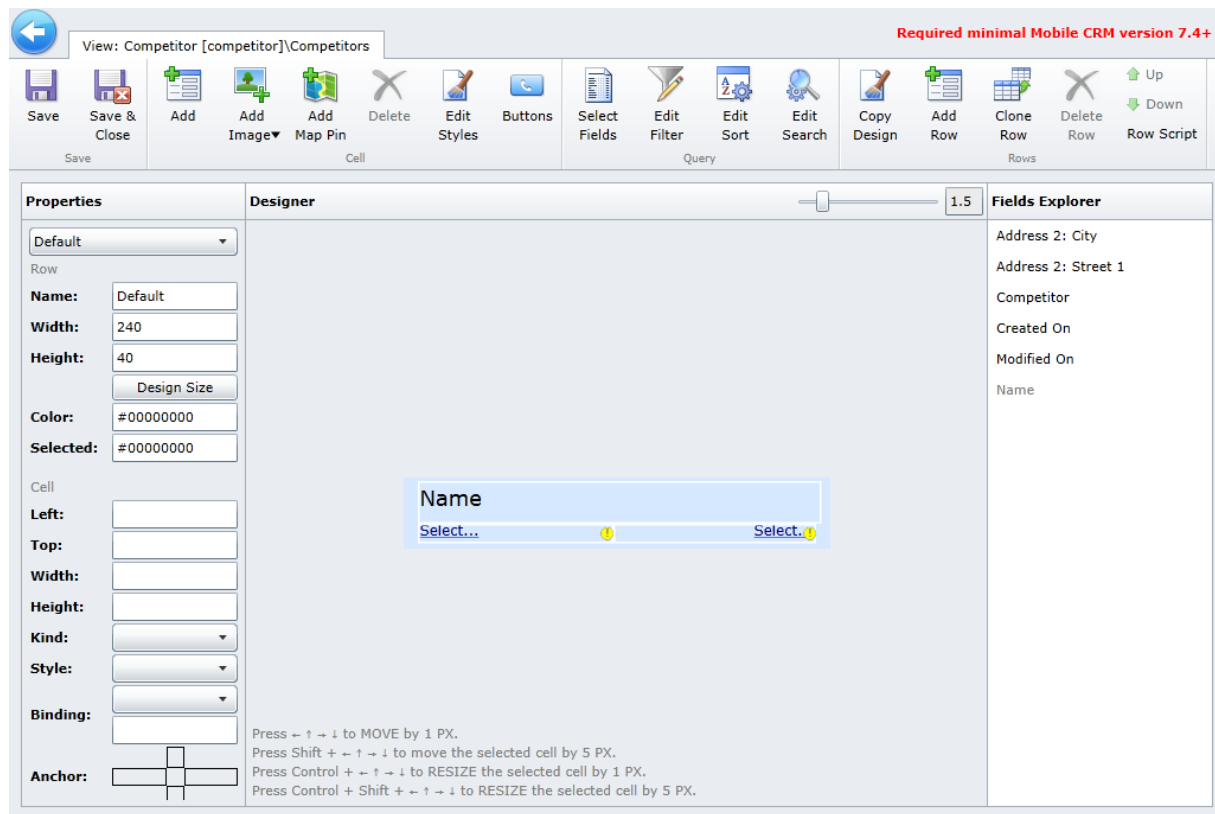


Firstly I will add the fields to be available on the Field Explorer by clicking Select Fields in the Menu Bar and in our case select all of them. Select fields show all the fields available for the mobile device, not only for the View, but also for Sort and Search. The selected fields appear in a list on the right. You can also disable fields, that need to be enabled for synchronization, but you do not need to add them to View to make the designer tidier.

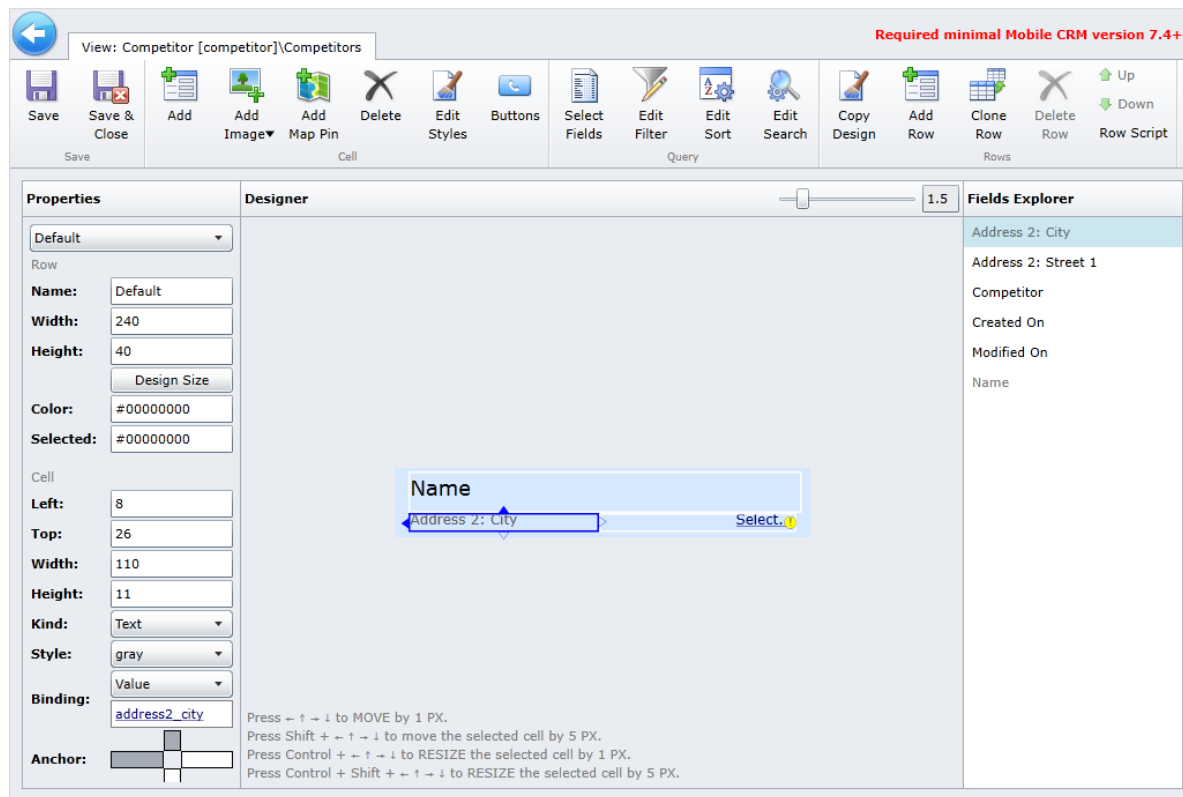


If you want to have more fields, you need to enable them in the Fields option under Competitor Entity. Then I selected the left bottom cell in the blue rectangle and double-click the City field in the list on the right to add City field. I do the same with right bottom cell and add the Street field. I press Save & Close when finished.

**Note:** If you want to search using a wildcard, use “%” in Mobile CRM search bar, the same way as you would use “\*” on the CRM web interface.



Each field also has four available anchors (arrows). You can activate the anchor by clicking on it. It will fix the boundary position of the field to the side the anchor is pointing. In the case of the picture bellow, the Address 2: City field is bounded to the left border of the view item and to the bottom border of the Name field. When the anchors are set correctly, the view will not be messed up when the user rotates the screen from e.g. portrait to landscape.



## Row

**Name** – Defines the Row's name (to distinguish between multiple Row designs)

**Width** – Defines the width of the row in a view

**Height** – Defines the height of the row in a view

**Color** – Defines the color of the row's background

**Selected** – Defines the color of the row's background, when the record in view is selected

## Cell

**Left, Top, Width, Height** – Coordinates of the selected element (field on the row). You can adjust the element size and position either by entering the coordinates or by drag and drop the element and element's sides in the designer

**Kind** – You can set the selected element as Text field, Image or Map Pin that will be used in the Map view.

**How Image Kind works:** When you select a field to which you change the Kind to Image, the field's value is taken as the image name. So e.g. if you set the status code field as Image, and you add the icons of the different status codes to the customization, the icon on the view will change

according to the record's status code. Also please see the Form Style Editor's Folder description for more information.

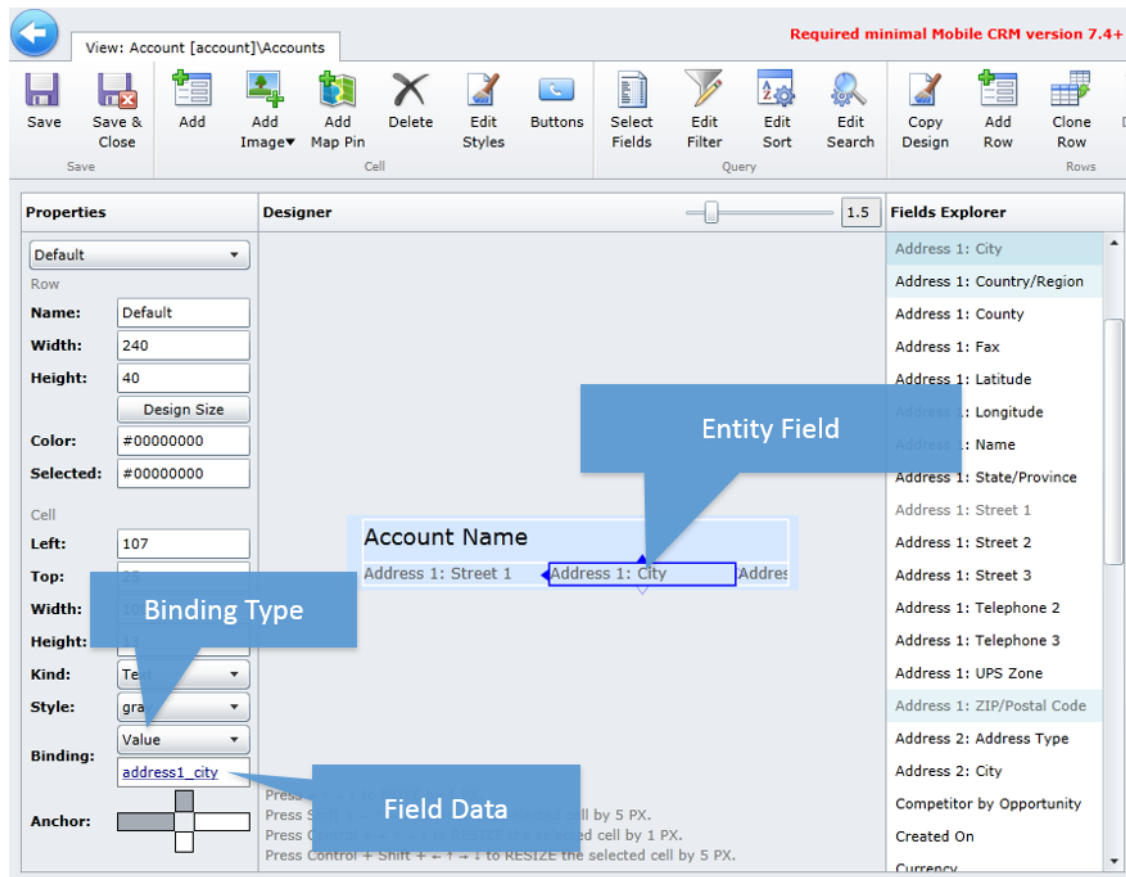
How Map Pin Kind works: When you select a field to which you change the Kind to Map Pin, the field's value is taken as the Map Pin image name. So e.g. if you set the status code field as Map Pin, and you add the icons of the different status codes to the customization, the Map Pin icon on the map view will change according to the record's status code. Also please see the Form Style Editor, ImageCell Folder property description for more information.

**Binding** – Please check the following section (4.5.2) for more information.

**Style** – you can select the style that will be used for the selected element. The designer will also preview the selected style. You can also create your own styles, or adjust the existing ones using the **Style Editor** (button in the top toolbar).

#### 4.4.2 Binding

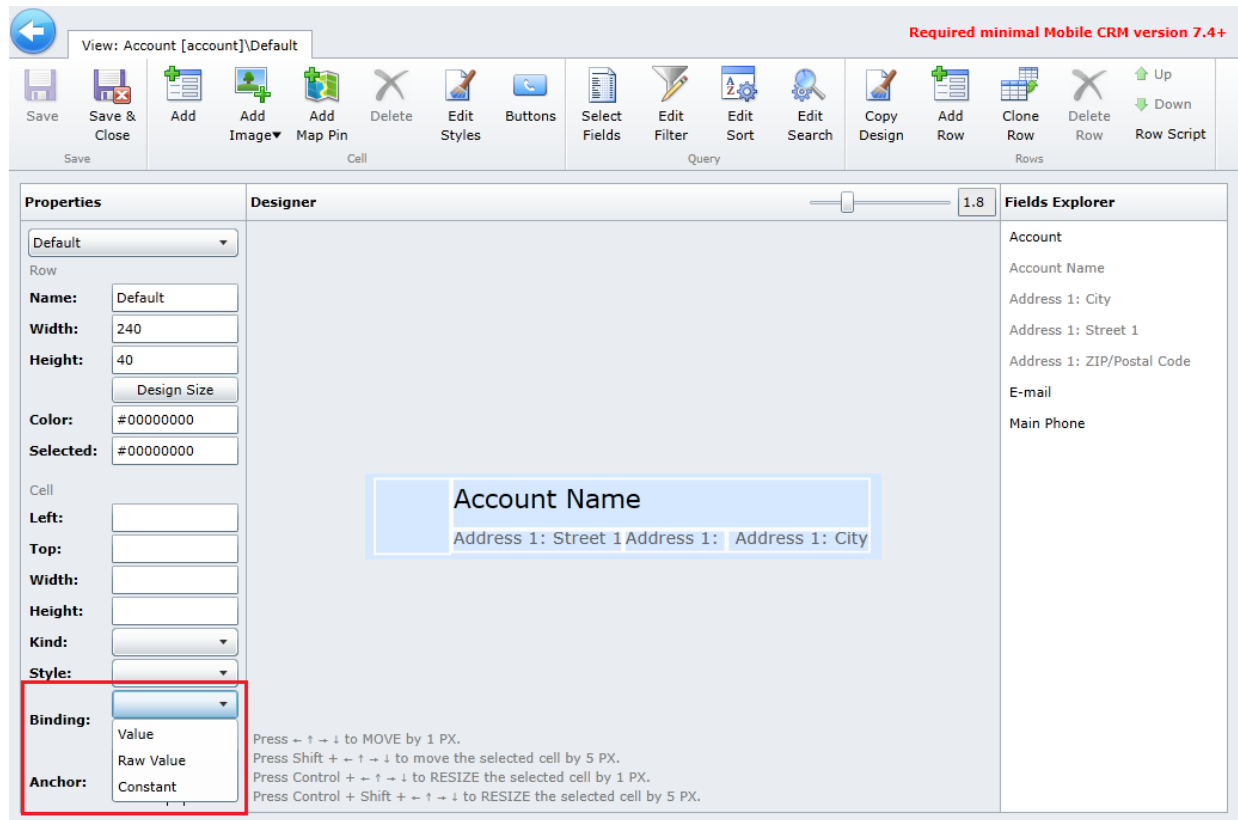
You can define what will be used as Field Data in a view element, entity field. When you add an entity field on the view, by default, Binding is set to Value and you see the entity field's name in Binding's field data. This way the field's data are shown in standard way, so that you can see the value of the field in Mobile CRM app.



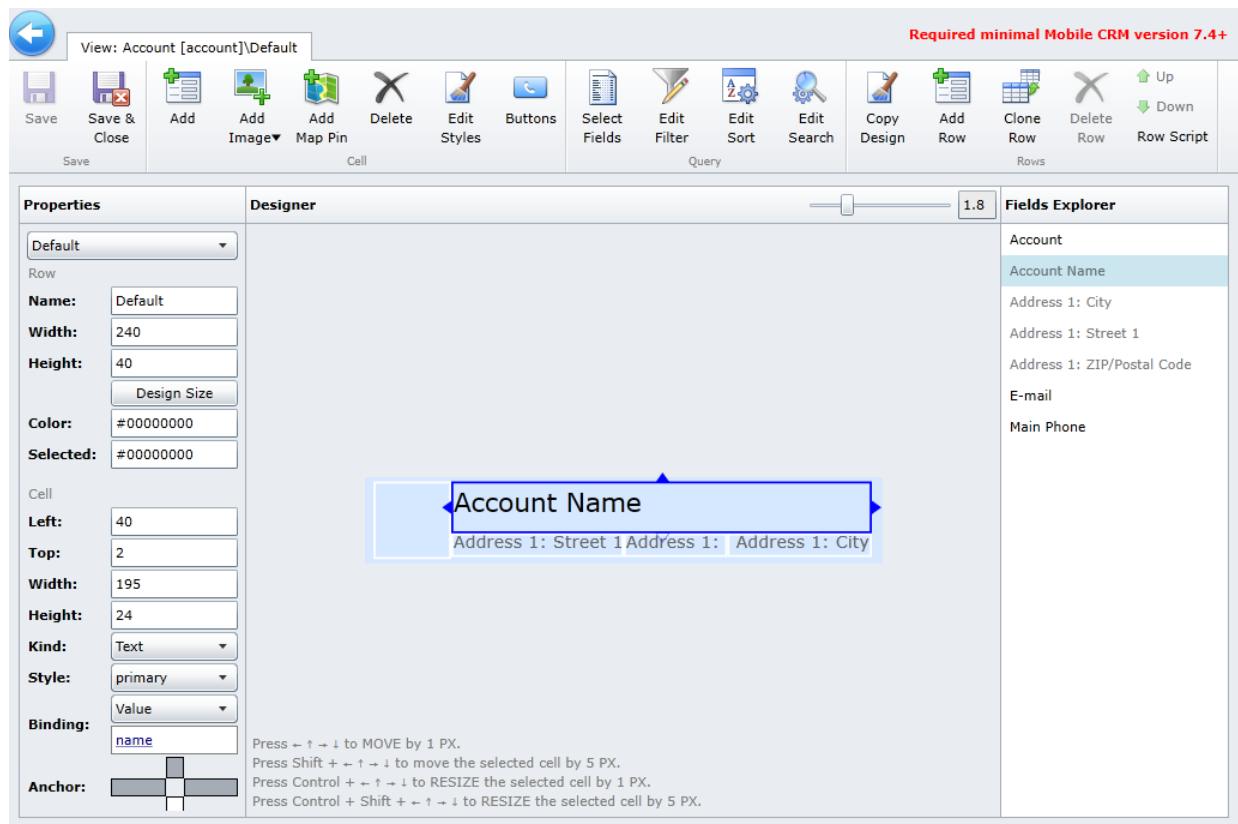
E.g. when you have an Option set field on the view, if you leave the Binding Type on Value, Mobile CRM app will display the item's label. If you set Binding Type to Raw Value, instead of label, Value of the Option Set will be used. This is useful, when you want to not display text, but different View images, or Map Pins, based on different value of the option set. It is because images cannot have space in their names.

The screenshot shows the 'Field' configuration window for 'Shipping Method of Order'. The 'Options' section is highlighted with a red box. It contains a list of options with their labels and values.

| Options     | Label * | Value * |
|-------------|---------|---------|
| Airborne    |         |         |
| DHL         | DHL     | 2       |
| FedEx       |         |         |
| UPS         |         |         |
| Postal Mail |         |         |
| Full Load   |         |         |
| Will Call   |         |         |



When Binding Type is set to Constant, you can enter a static text as Field Data, and this text will be displayed instead of the entity field data. This way you can add “labels” to views, to describe fields that only show numeric value.



#### 4.4.3 View Style Editor

It is also possible to change or add a style using the Edit Styles button on the Toolbar.

The editor enables you to change the default styles, or adding new styles, that can be then assigned to fields on views. The styles are global, for all fields on views, so if you change a style that is assigned to multiple fields, even to a view on a different entity, these changes are also applied to these fields. Also it does not matter on which view you open and edit the Style Editor.

The properties of the ImageCell (is used when the Kind of the element is set to Image) that are useful for this kind of item are following:

**Folder** – Enter the name of the Folder under the platform folder of the Image.zip where the icons for the field values that you want to represent as pictures are stored

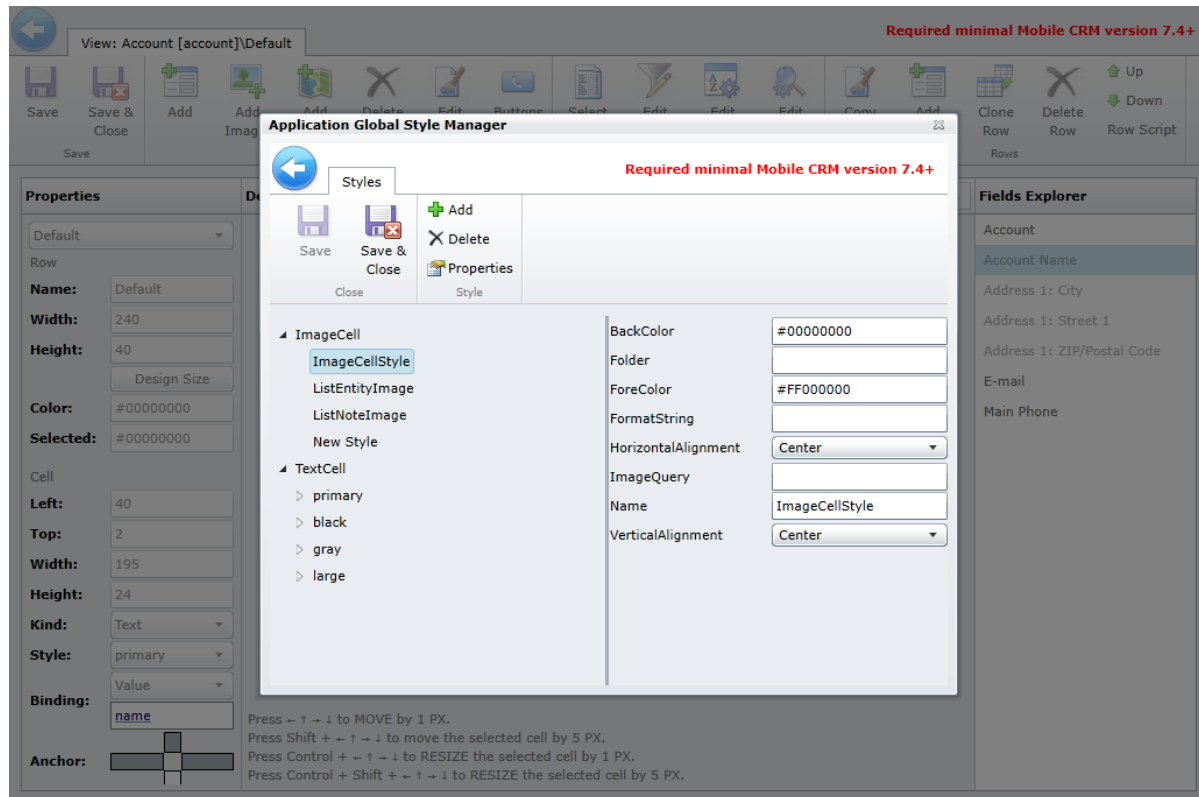
**ForeColor** – if the icon that you will use is colorized, you can change the color of the icon here

**FormatString** – if you use a non-string field to be used as source for the image (e.g. a lookup field), the string should look like folder\_name{0}.png. {0} represents the target name (name of the lookup record, according to which the image is used).

**HorizontalAlignment** - Near aligns the image to the left side of the cell, Far aligns image to the right side of the cell and Center aligns the image to middle of the cell

**Name** – Name of the style

**VerticalAlignment** - Near aligns the image to the upper side of the cell, Far aligns the image to the bottom of the cell, Center aligns the image to the middle of the cell



The properties of the TextCell (used when the Kind is Text) are following:

**AutoHeight** – Adjusts the row's height to fit the field in case the field element in designer is smaller than the font.

**BackColor** – Color of the field's background (color of the cell)

**FontSize** – Size of the text's font

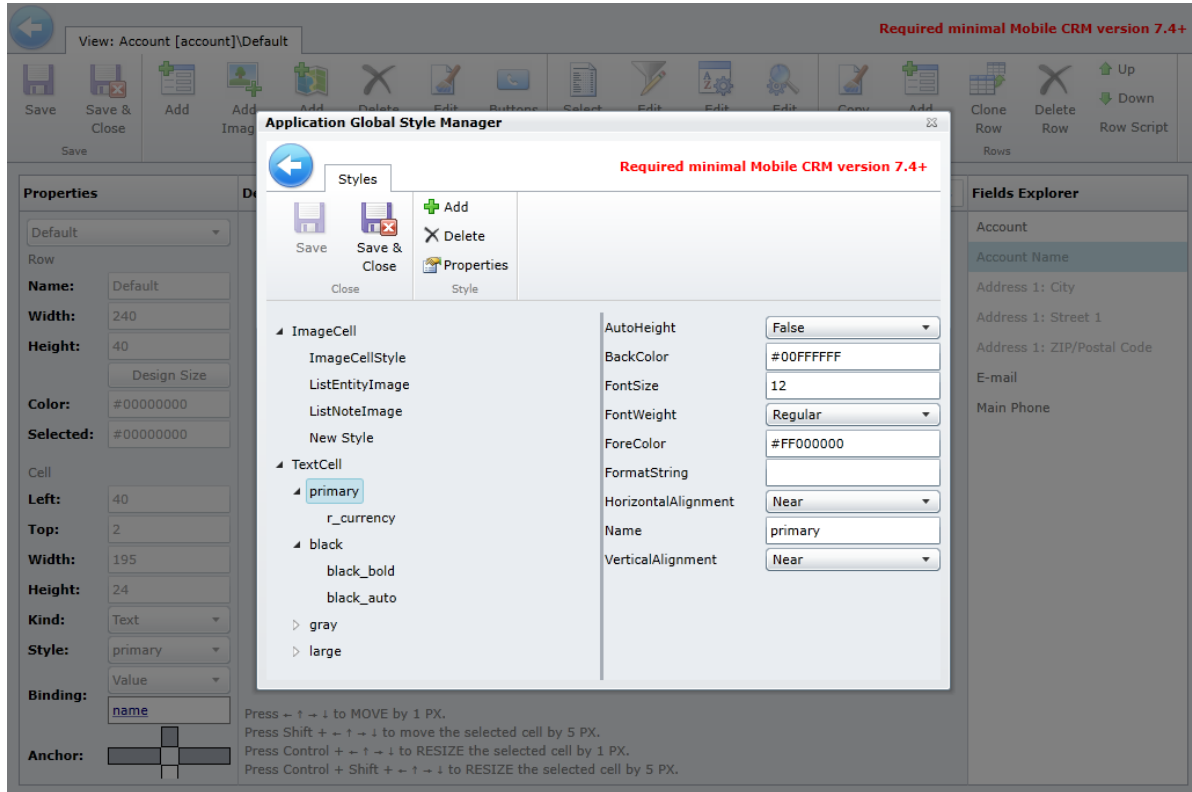
**ForeColor** – Color of the foreground element – in this case it's the text (#AARRGGBB – AA = alpha/transparency, RR = red channel, GG = green channel, BB = blue channel)

**Format String** – You can format the way, how the field data are represented. E.g. you can enter a format string in the way "Personal: {0}" where Personal: is a static text and the field data are entered where the element {0} is

**HorizontalAlignment** – Near aligns the text to the left side of the cell, Far aligns text to the right side of the cell and Center aligns the text to middle of the cell

**Name** – Name of the style

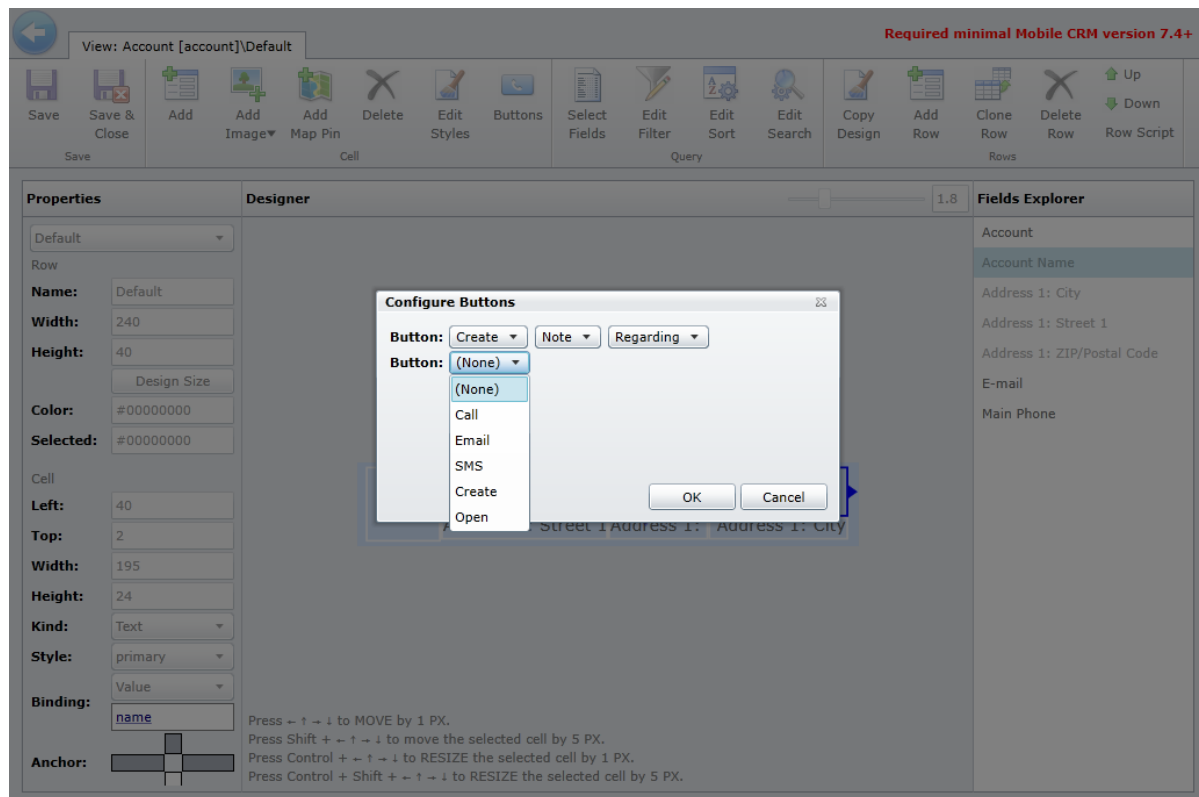
**VerticalAlignment** - Near aligns the text to the upper side of the cell, Far aligns the text to the bottom of the cell, Center aligns the text to the middle of the cell



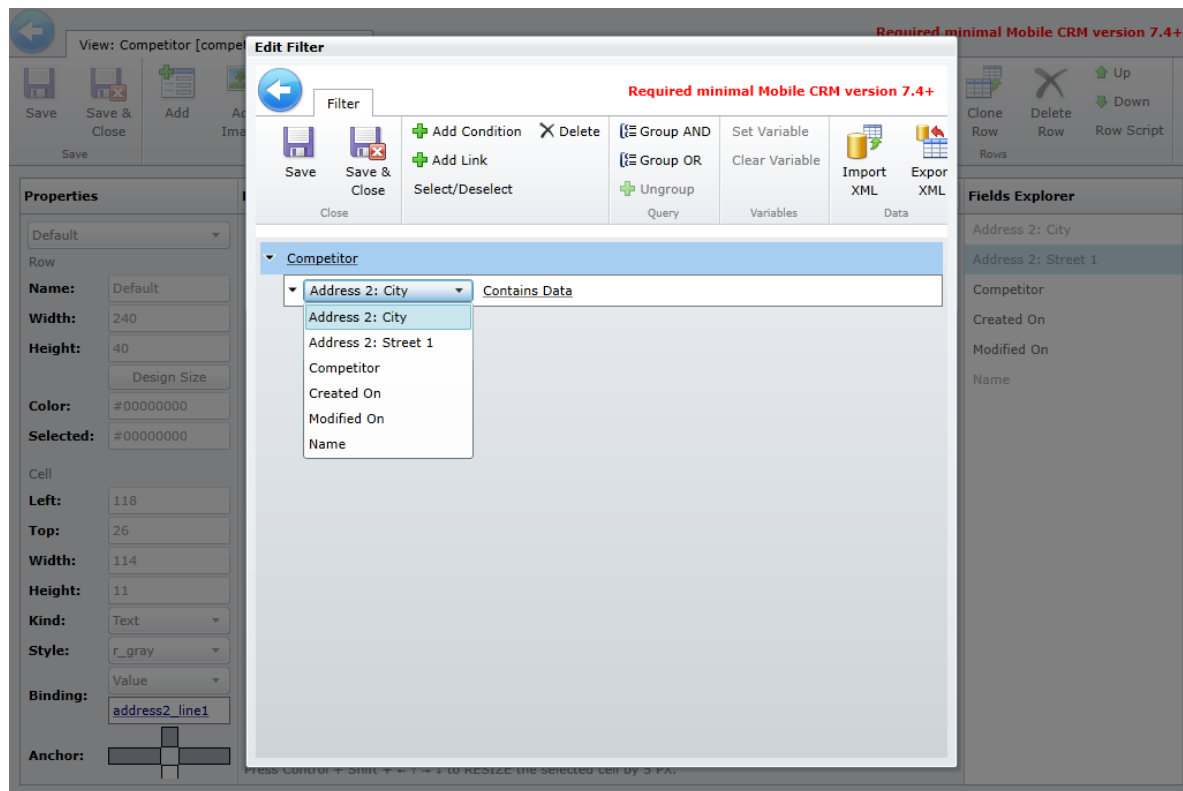
#### 4.4.4 Additional View Configuration

In each view we can also define **Buttons**, **Edit filter**, **Edit Sort** and **Edit Search**.

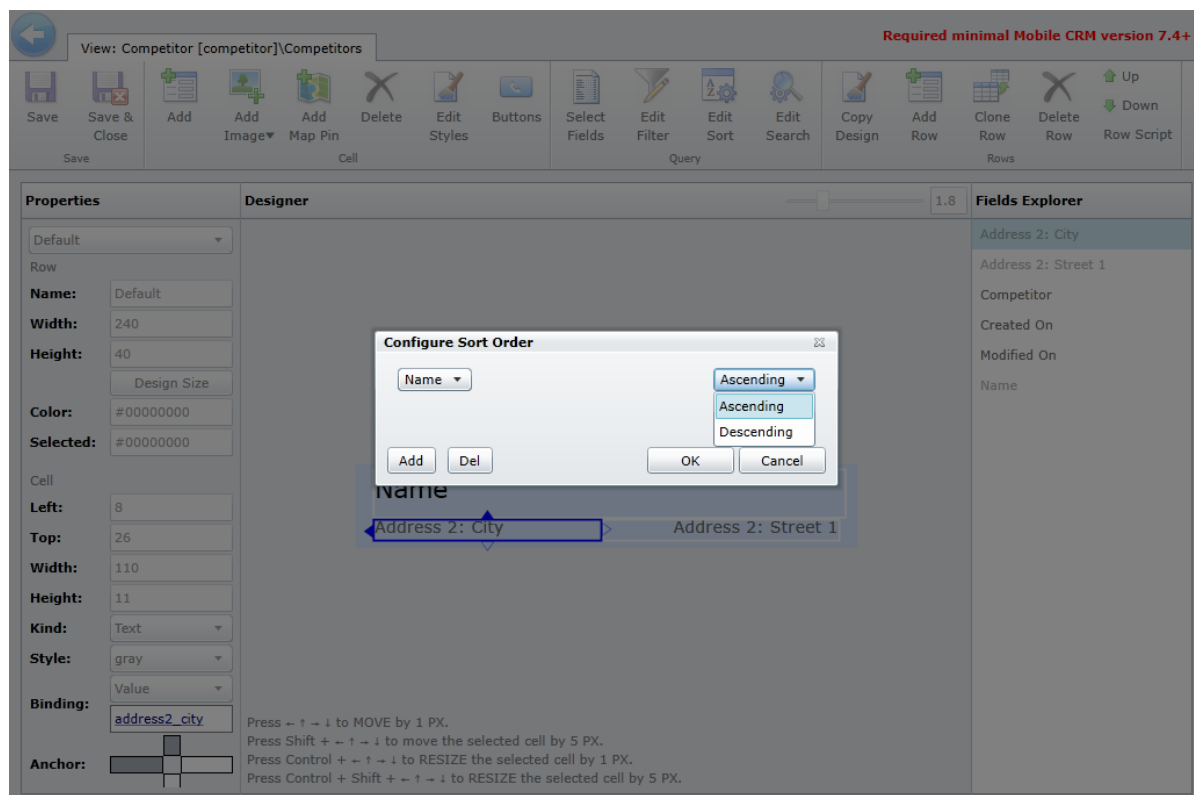
You can configure the buttons on the view (visible only if the List Buttons option in Resco Mobile CRM Setup is enabled). Click on the Buttons icon and set the action that the button should perform. These buttons will be shown as a replacement of the default ones when user selects the record in the list view.



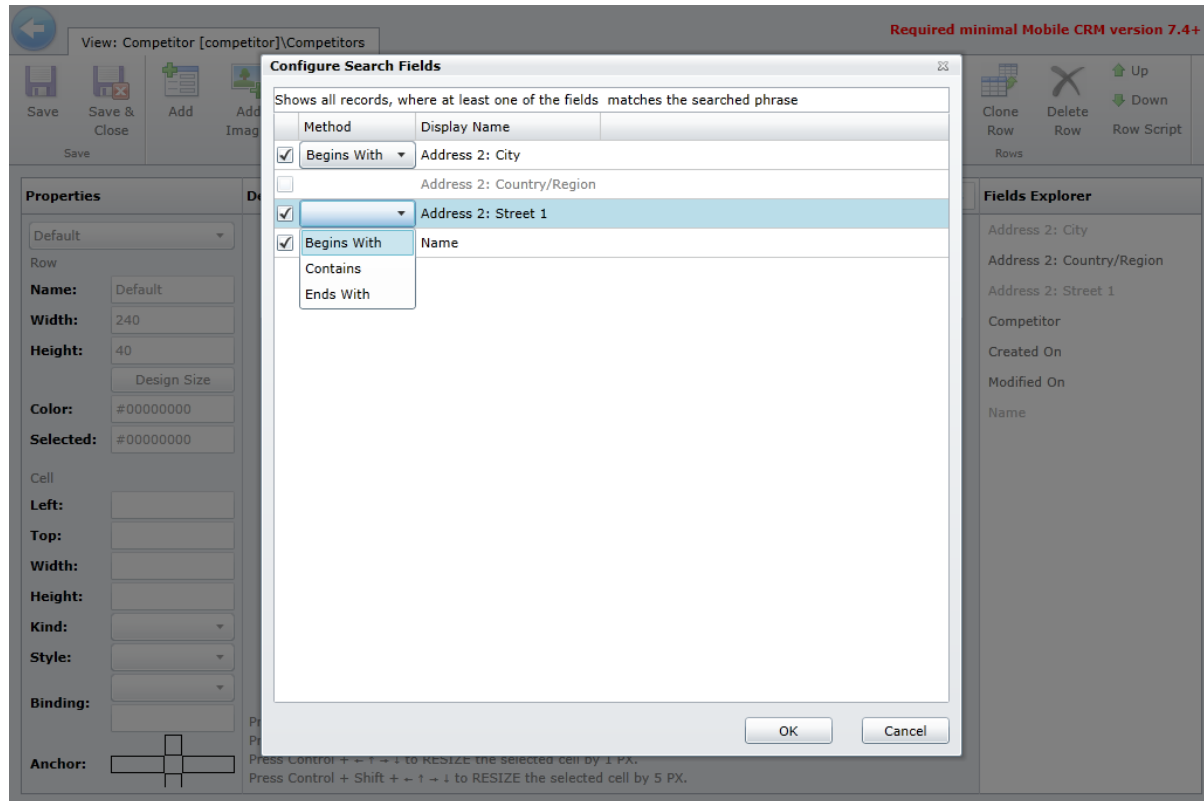
Edit filter will restrict the displayed data in the view to only those that meet the conditions. The difference between the Sync Filter and Edit Filter is, that the Sync Filter only allows to sync the fields that meet the conditions, while the Edit filter works with all fields, and only displays those, that meet the conditions. This is the perspective of having more views for one entity.



Edit Sort defines which field will be used for sorting and the direction of sorting (Ascending or Descending).



In the Edit Search we can define in which field the application will search for the character entered into the search field in the application. We can also define whether search at the field's beginning, end or in each full text. The search uses logical operation OR.



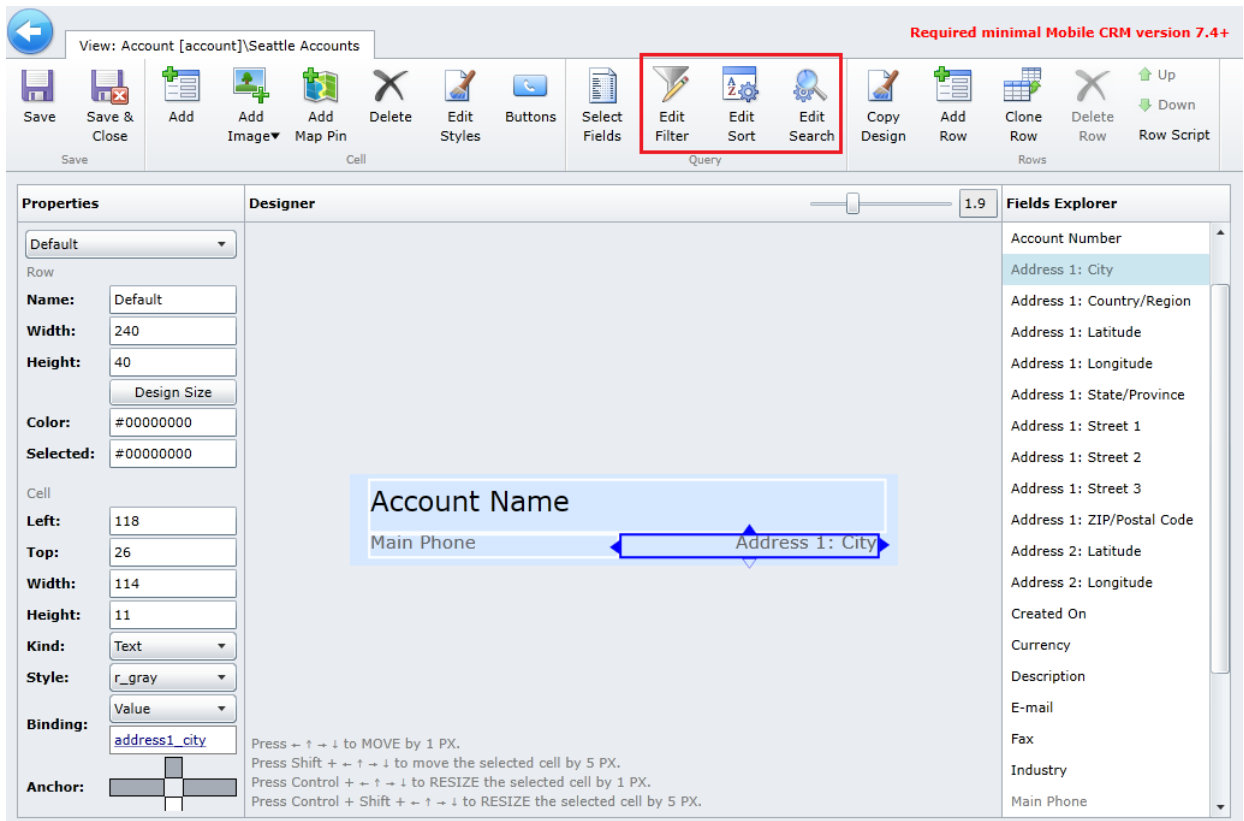
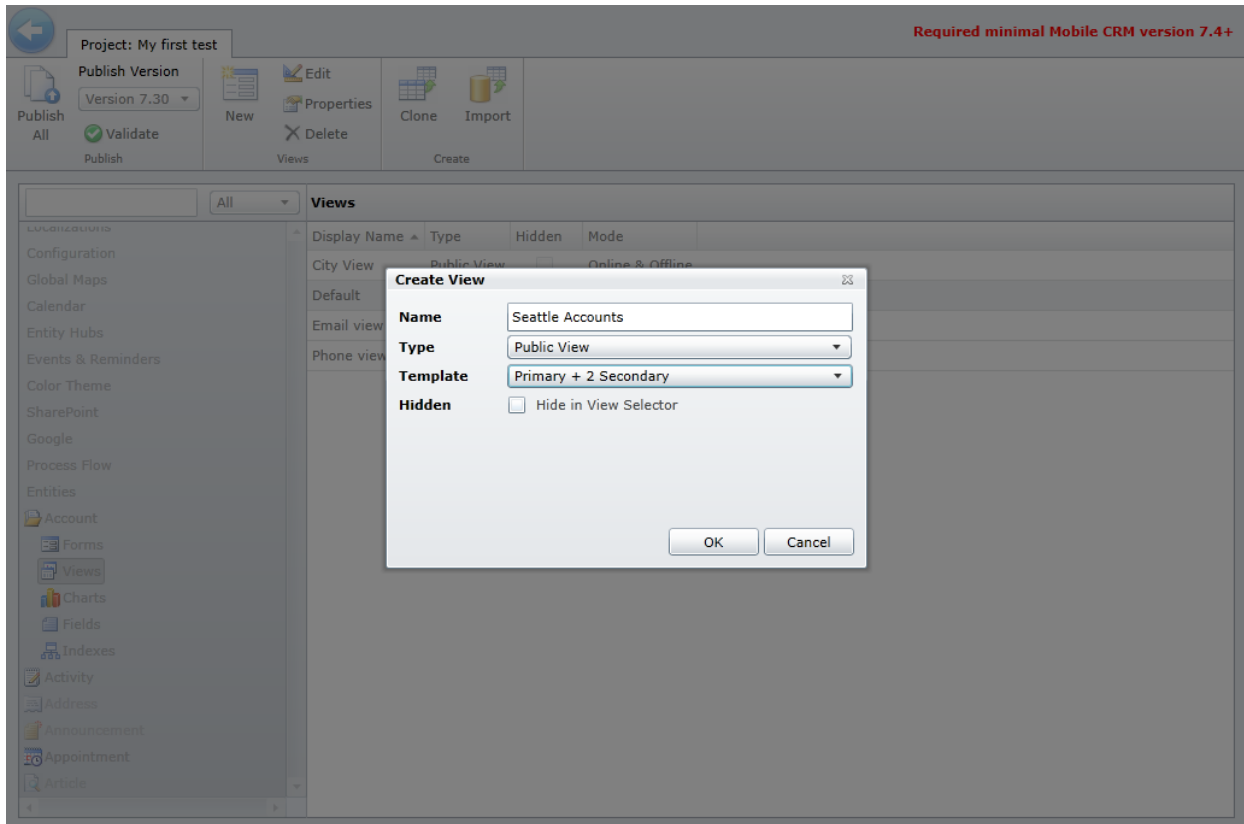
**Note:** Because the search uses OR, to enable more advanced search, you can create a filter with a condition over a text field (e.g. Name, Title etc.) and as a filtered text enter @@filter@@. This will be replaced (in runtime) by the text entered to the search field on the view.

**Note:** If you have a GPS coordinates field in the entity, if you enable it for the mobile project, you will be able to switch the view from list to map and see the records on a map.

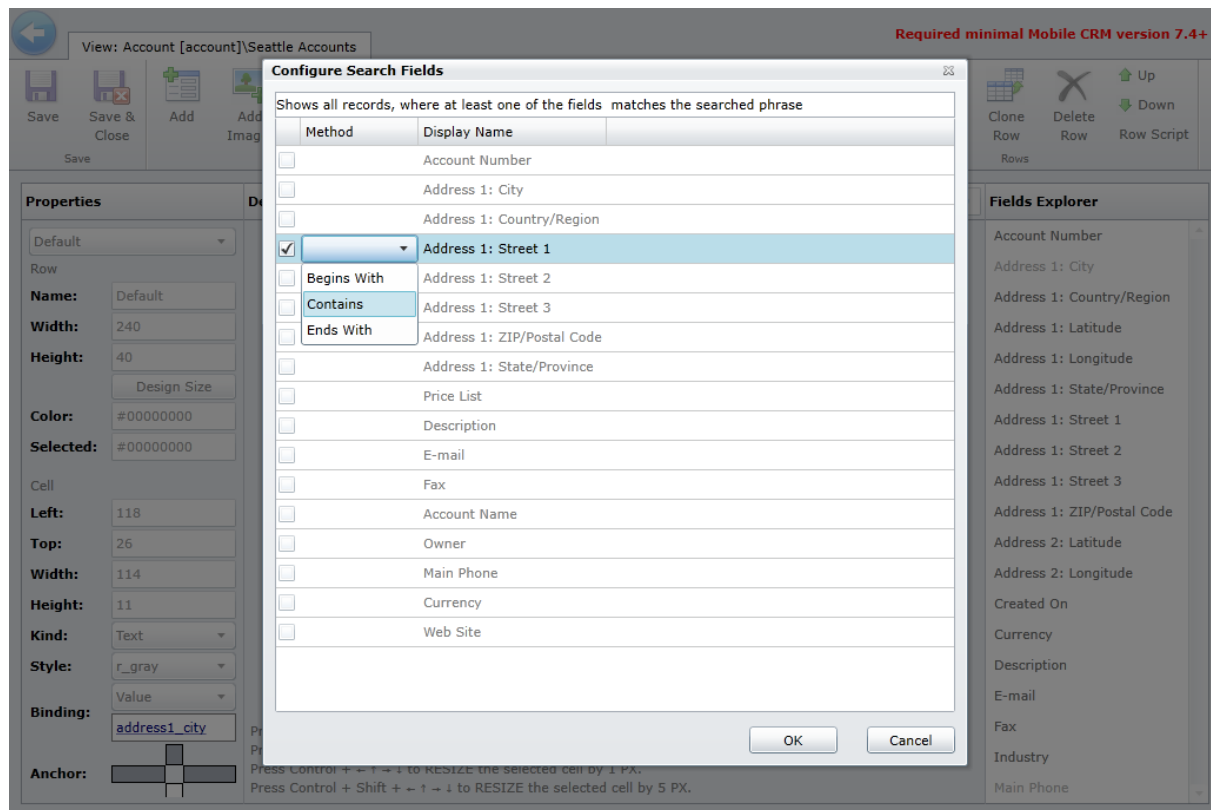
#### 4.4.5 Multiple Views

Multiple views are useful if the mobile user needs to have access to particular data from the same entity at one place. E.g. if the default public view is set to show all data, we can create a new view that will show only a subset of the data with different fields.

We will create multiple views for Account entity. First, we create a new public view named Seattle Accounts. The new public view will display only accounts located in Seattle. Therefore, we define a filter that will only display accounts located in Seattle. For this new public view we will also define the Edit Sort order as Ascending and Edit Search, that will search for the address that contains the characters entered to the search field in the Address field.

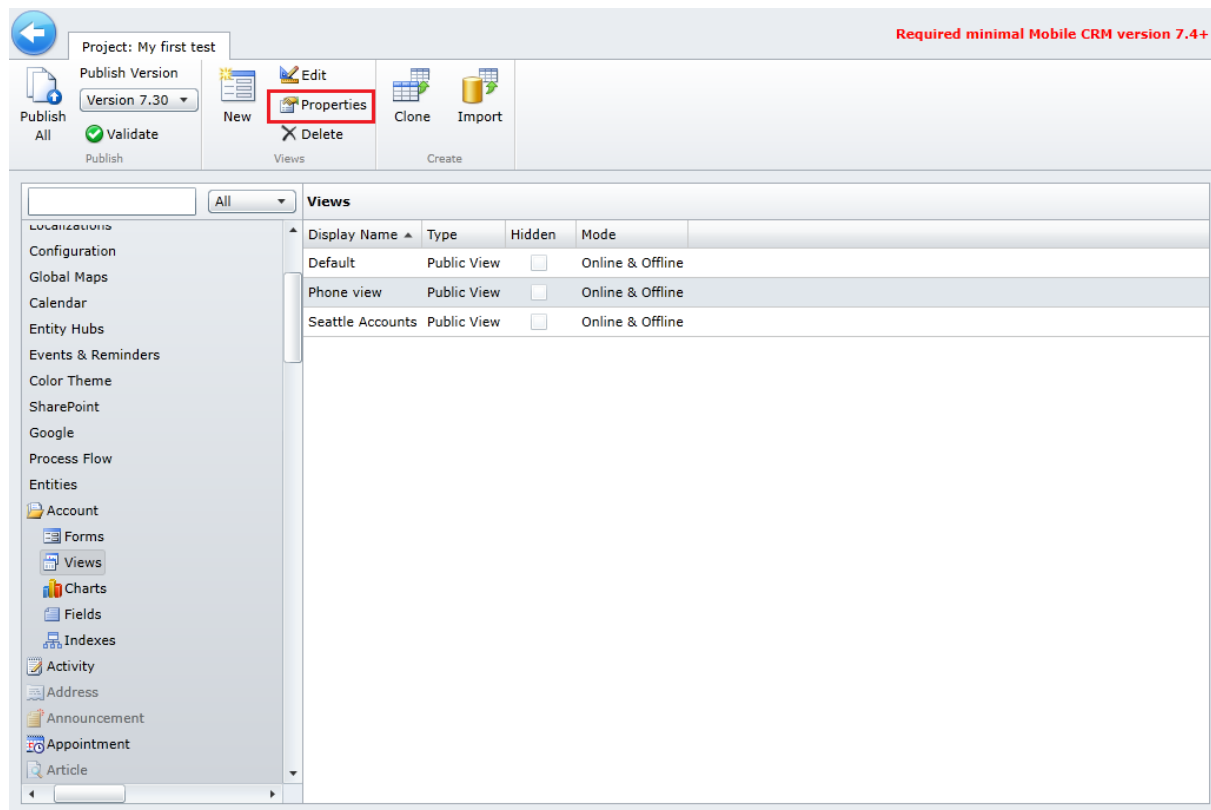




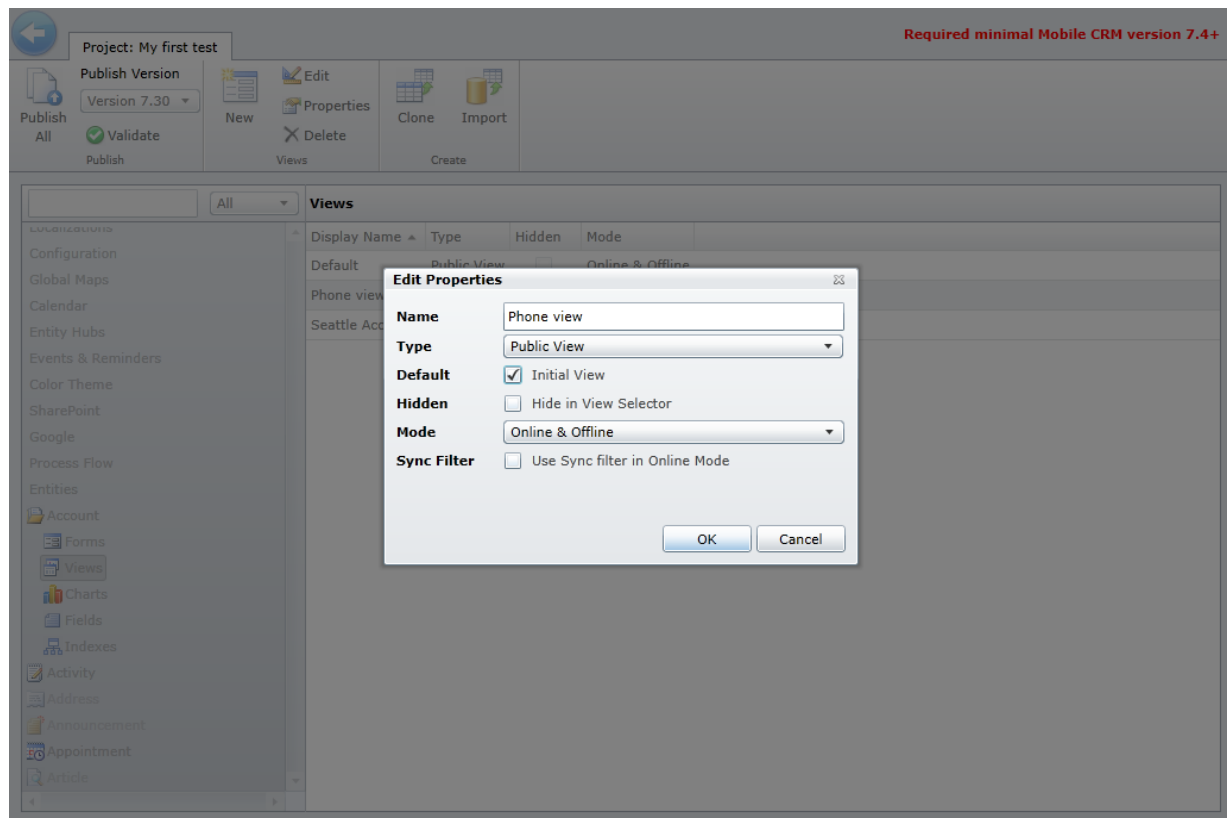


Using the same steps, we will create another public view, this time with the name Redmond Accounts, and set the filter to show only accounts located in Redmond.

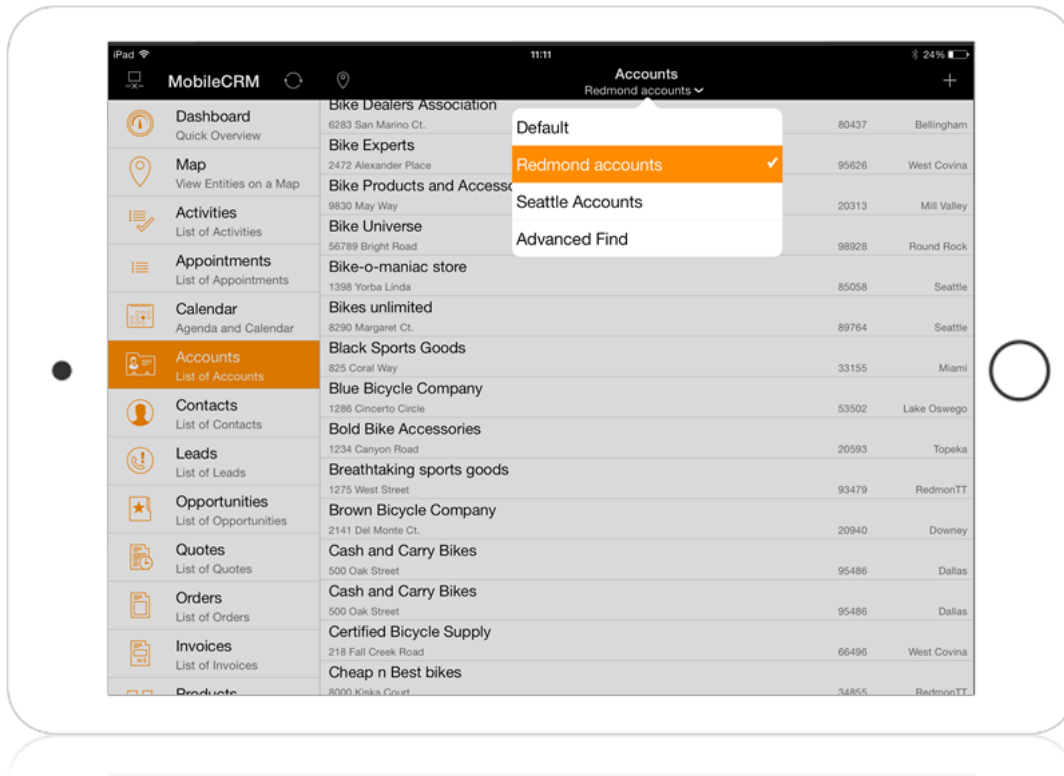
As the last step we define which view will be default. In our case it will be the Redmond Accounts. Select it in Woodford and click **Properties**.



- To make the Redmond Accounts as the default view, tick the Default (**Initial View**) checkbox. If the default view is not set manually, Mobile CRM will apply the alphabetical key.
- The option Hidden (**Hide in view selector**) can be used when you are creating a view, that will not be shown in the list of multiple views in the Mobile CRM application. It can be used for example for a filtered lookup. How to create one will be shown in the Advanced Topic section at the end of this manual.
- You can also set whether a view is created for **Online and/or offline mode**, so you can define different views for these modes.
- Also there is a possibility to apply the entity Sync filter for the View in Online mode to decrease the amount of the data that will be downloaded. This is done by checking the **Use Sync filter in Online Mode** checkbox in the properties dialog.



And here is the outcome in the Mobile CRM App. By selecting the different view we will have access to different data.

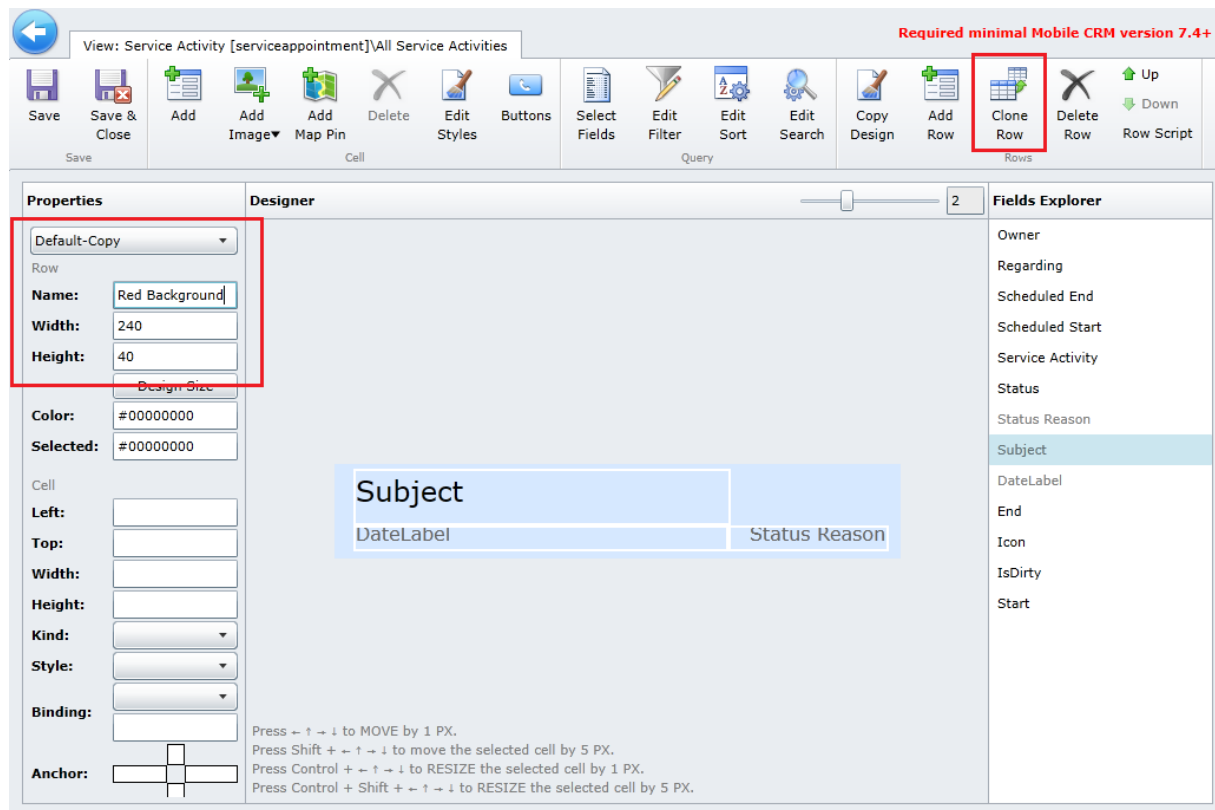


**Note:** To gain the same output, these steps need to make over the default testing database that comes with the Microsoft Dynamics CRM.

#### 4.4.6 Row Scripts

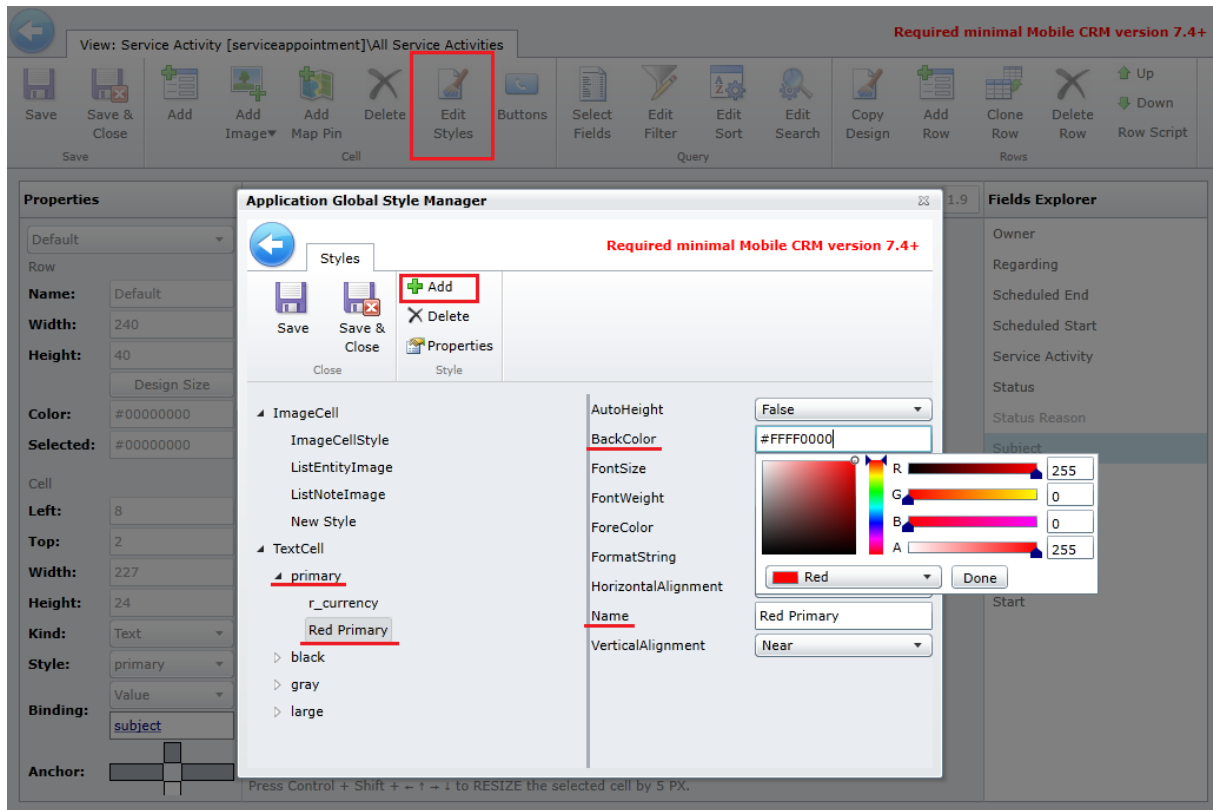
Using Woodford, you can change the row's design. Such as changing of its background or highlighting of specific records.

Go to the view, where you want to change the row (background) and click on Clone Row button to clone the current row. Then rename the Row.

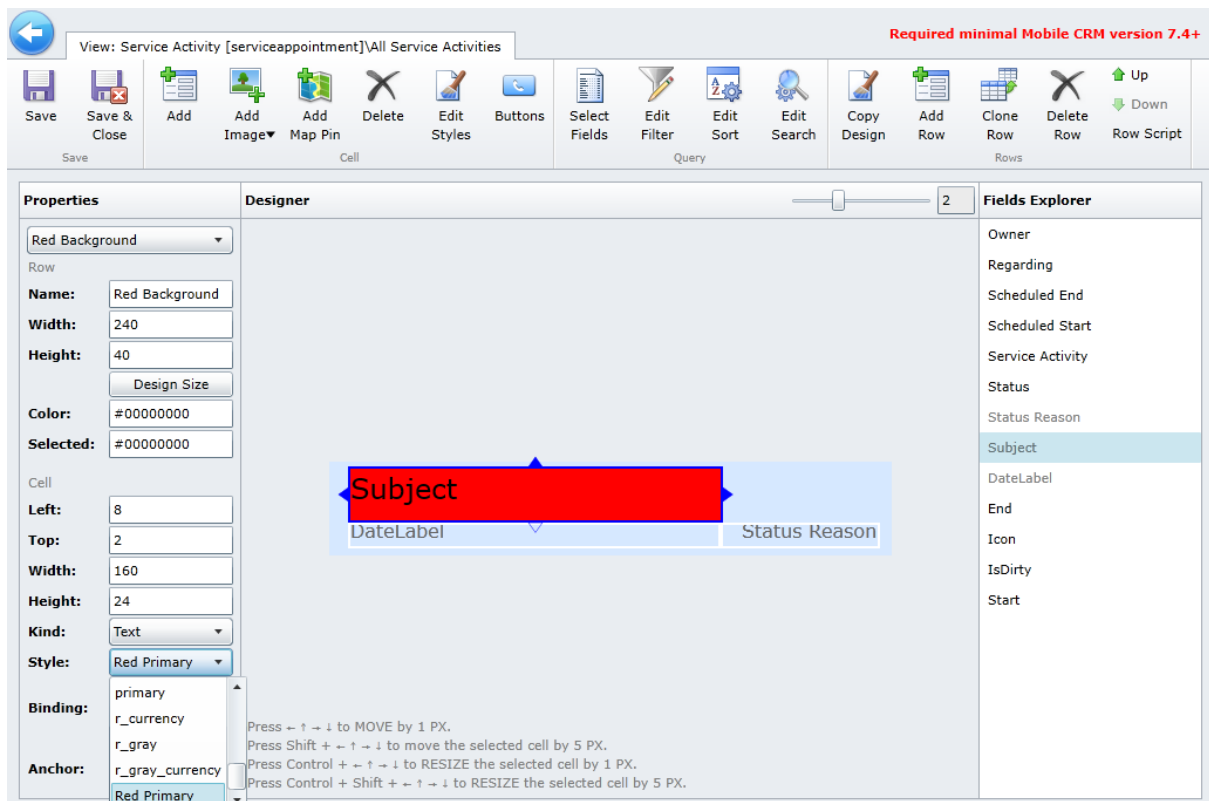


You can also use Copy design button that will allow you to copy the design of any view from any entity. Add Row adds an empty row, where you can add fields and design it from scratch.

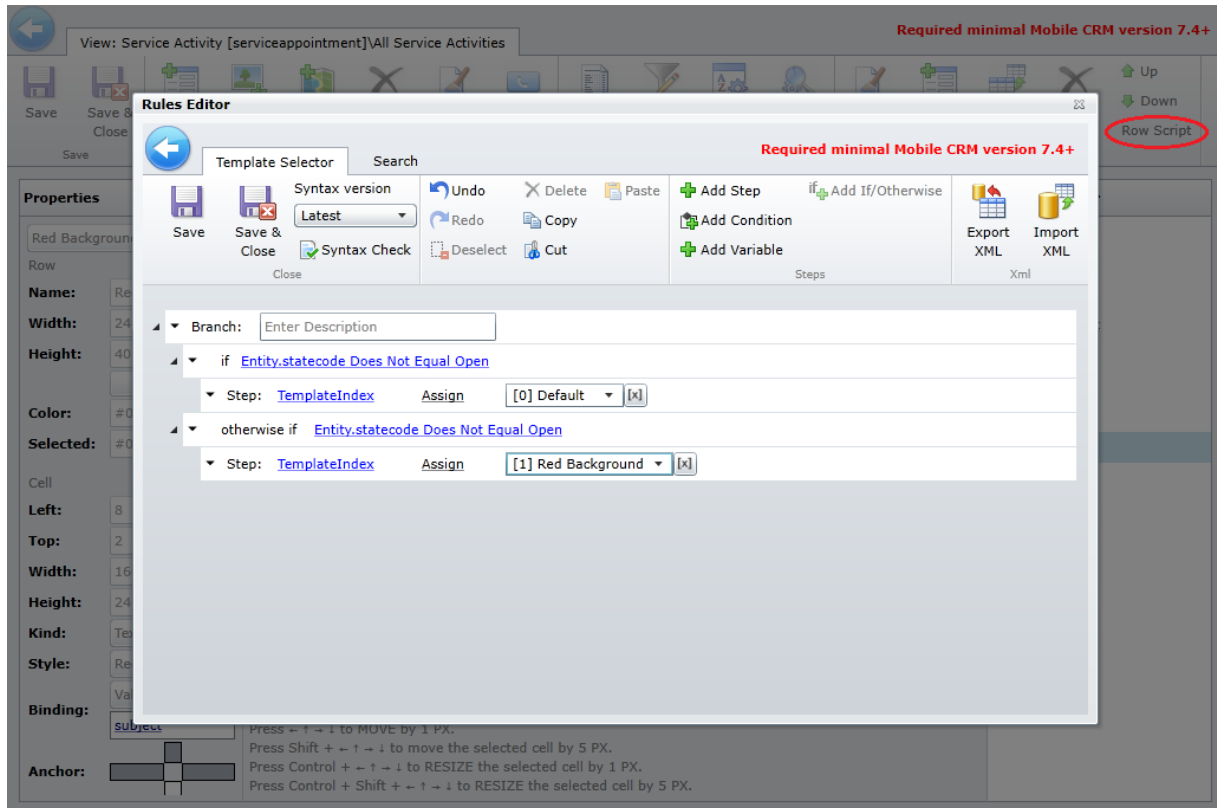
Now, go to Edit Styles, click on Primary and click on +Add button. It will create a clone of the Primary style. Change the BackColor (background), or ForeColor (text color), name of the style (in my case Red Primary).



Now change the field style on the new row (Red background) from Primary to Red Primary



To define when and how different row designs will be used, you need to set the Row Script (rule). Click on Row Script button, and create the script (rule), under which condition different row designs will be applied.



#### 4.4.7 Best practice in renaming a view

Please bear in mind that view name is used as a logic name, so it used all over the application. If you change the name of a view, it can cause issue to application. Especially if you rename default view names on pre-defined entities.

Views are used in Map, Calendar, in entities as public, associated or lookup views. So when you change the name, you should re-set the views on all these places.

So it is easier to use Localization to change the display name of a view, while you keep the “logical” name untouched. To enable this, you need to keep view names without spaces or special characters (underscore is ok).

#### 4.5 Form creation

We have two types of Forms: The Edit form and the **Contact Information form**. The Contact information is a read-only type of form for quick access to information. By customizing the **Edit form** we allow the user to edit the field’s information.

### 4.5.1 Contact Information Form

In the Contact Information form we can see the Contact Info section. In the Contact Info we can set which information will be displayed in the special, Info tab. It is the summary of, in this case, the competitor's information. It contains predefined categories that cannot be edited, so it should be only used for the entities, where it will make sense. It is not much a Read-Only form. It is rather a contact, or Quick Info form. The main reason is to make a quick direct phone call or send an email without the need to open the edit form. We can also add the available fields to the categories (Address, Call etc.). Information on the Contact Info will be displayed without labels.

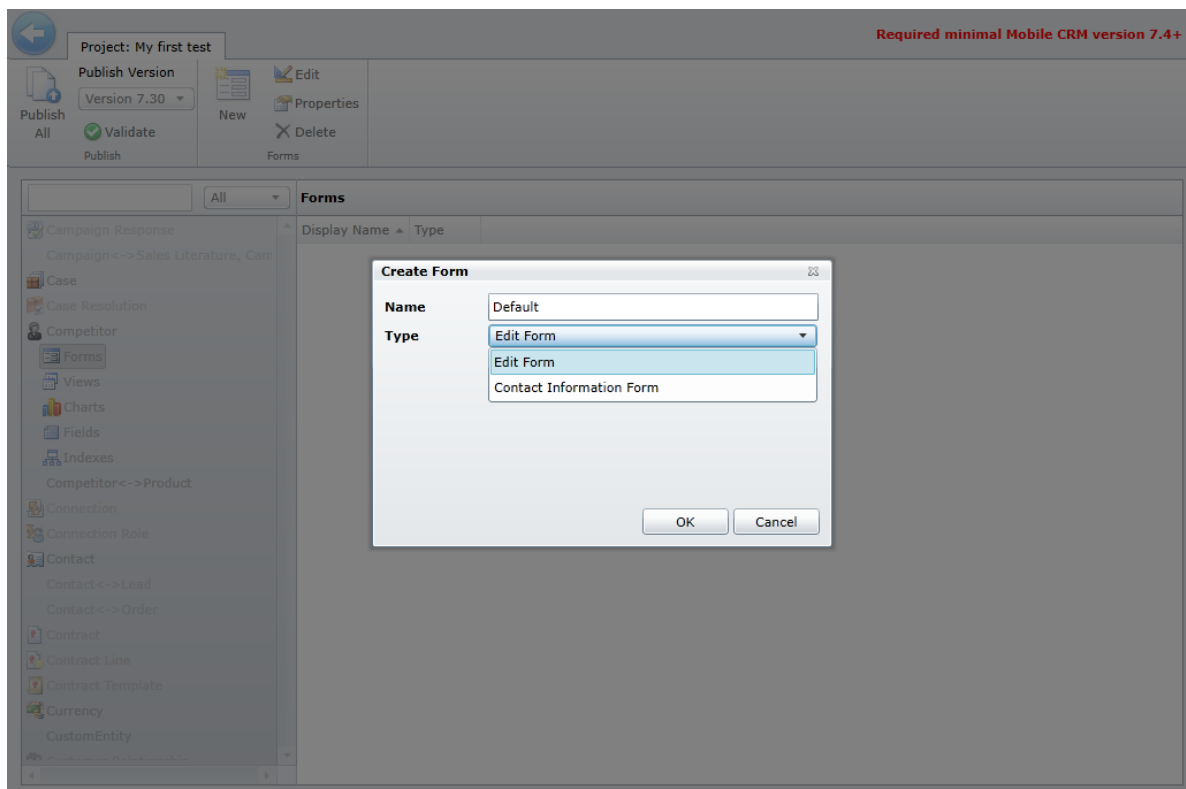
Other items on the Tabs section on the toolbar enables us to add the Iframe, Map and Wall objects. You can also add available associated list, or unrelated list (list of records, that will not be filtered).

The Field Explorer enables us to add the associated views of the fields from the entities bound with the foreign key. Or when you click on the Contact Info form designer part, you will see a list of available fields that can be placed on the Contact Info tab.

### 4.5.2 Edit form

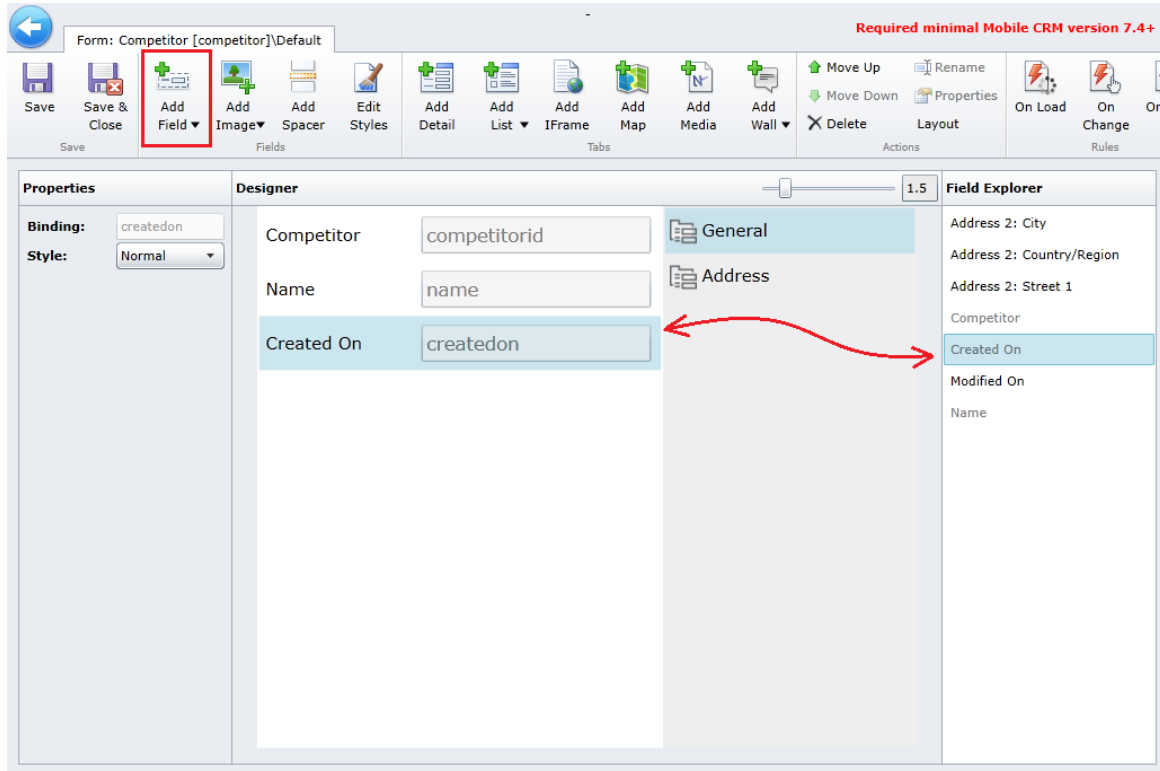
In Edit form we define which fields will be able for editing and designing of the form.

Now we design an Edit form—click Forms and then New in the Main Menu. Name the form and select Edit Form.

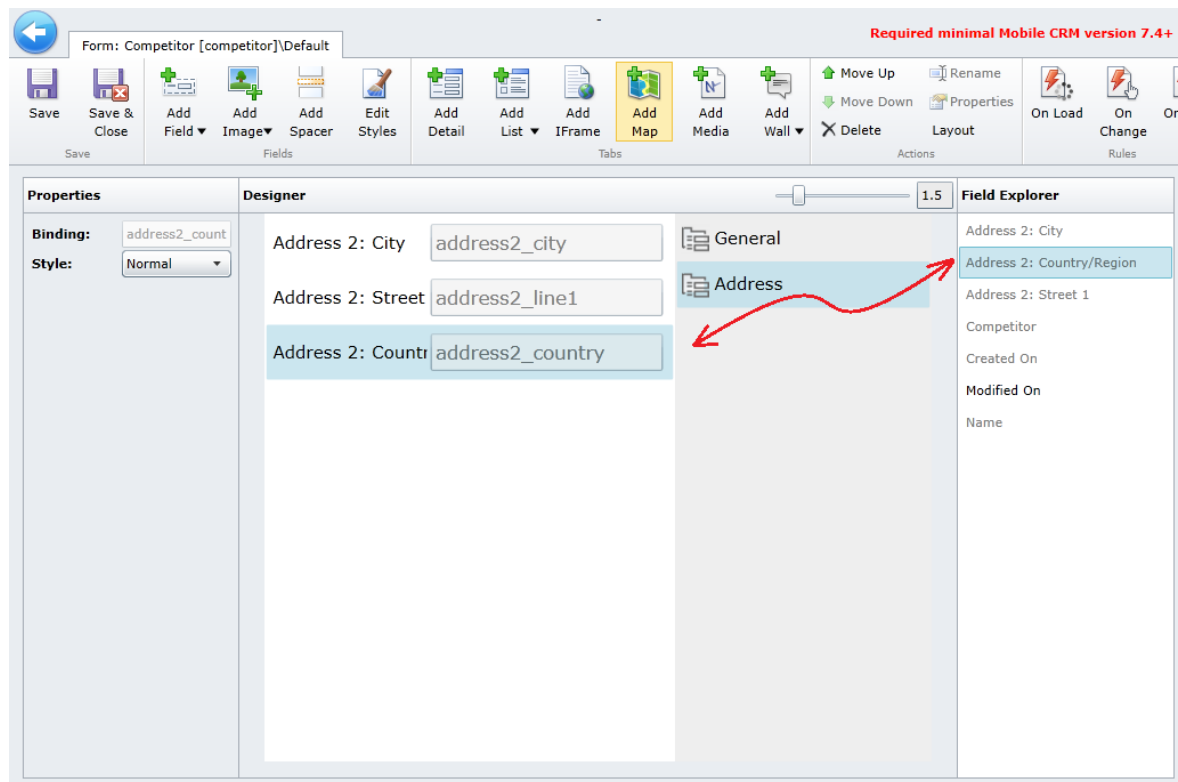


The Form in default includes two tabs: **General** and **Address**.

Select General form and click on the **Add Field** button to add available fields. Once you've added one field through the Add Fields button or you clicked on one of the fields in the center portion of the screen (**Designer** area) you can drag and drop the fields from **Field Explorer** list on the right to the designer.



And now I do the same for the Address tab ([why to use Address tab?](#))

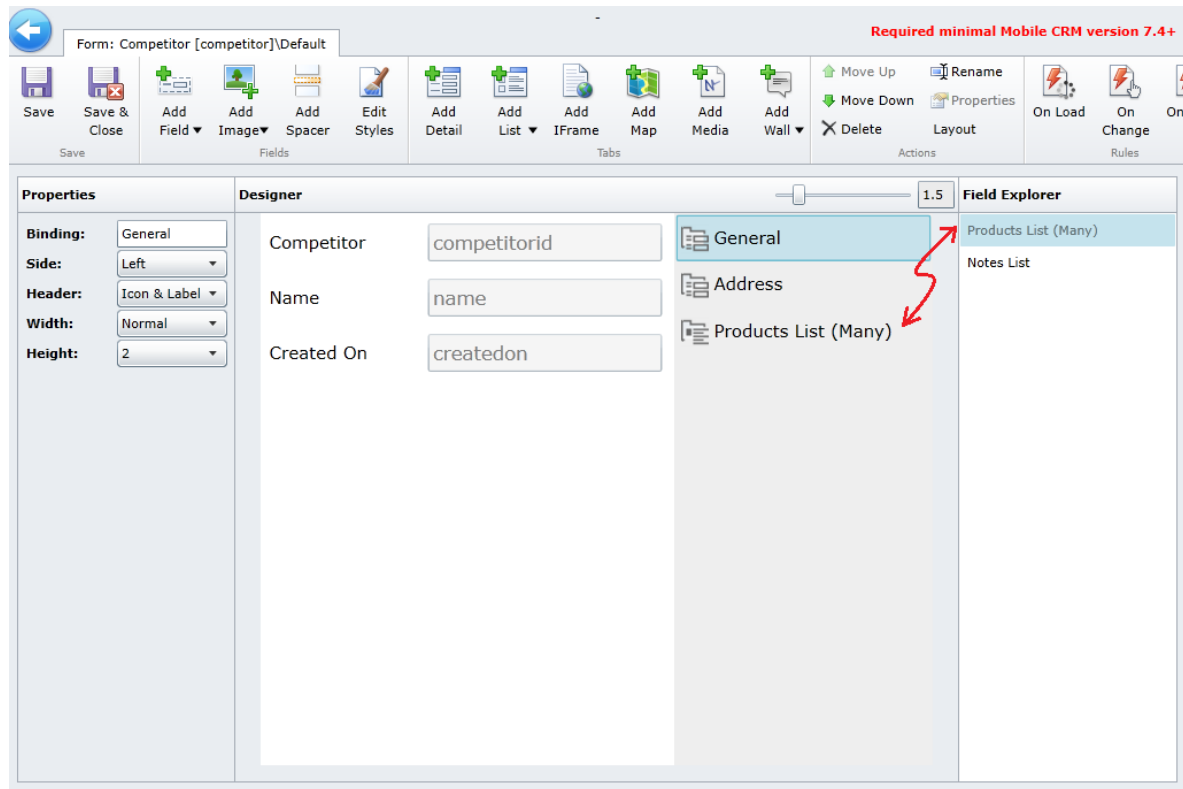


You can of course add additional tab using **Add detail** button, and place fields there, you can also delete the default or custom tabs, or rename them (click on the tab and then click on the **rename** button).

To add tabs that will show related/associated entities (list of related contacts, products & etc.) use the **Add list** button (you can also drag&drop the lists from the right to the center portion of the screen)

To add list of unrelated records, use the same button, just use the last option, Unrelated Entity List, and select the entity that should be used.

When you select a list and click on Properties (or double click on the list), you can define the view(s) that will be available for this list.

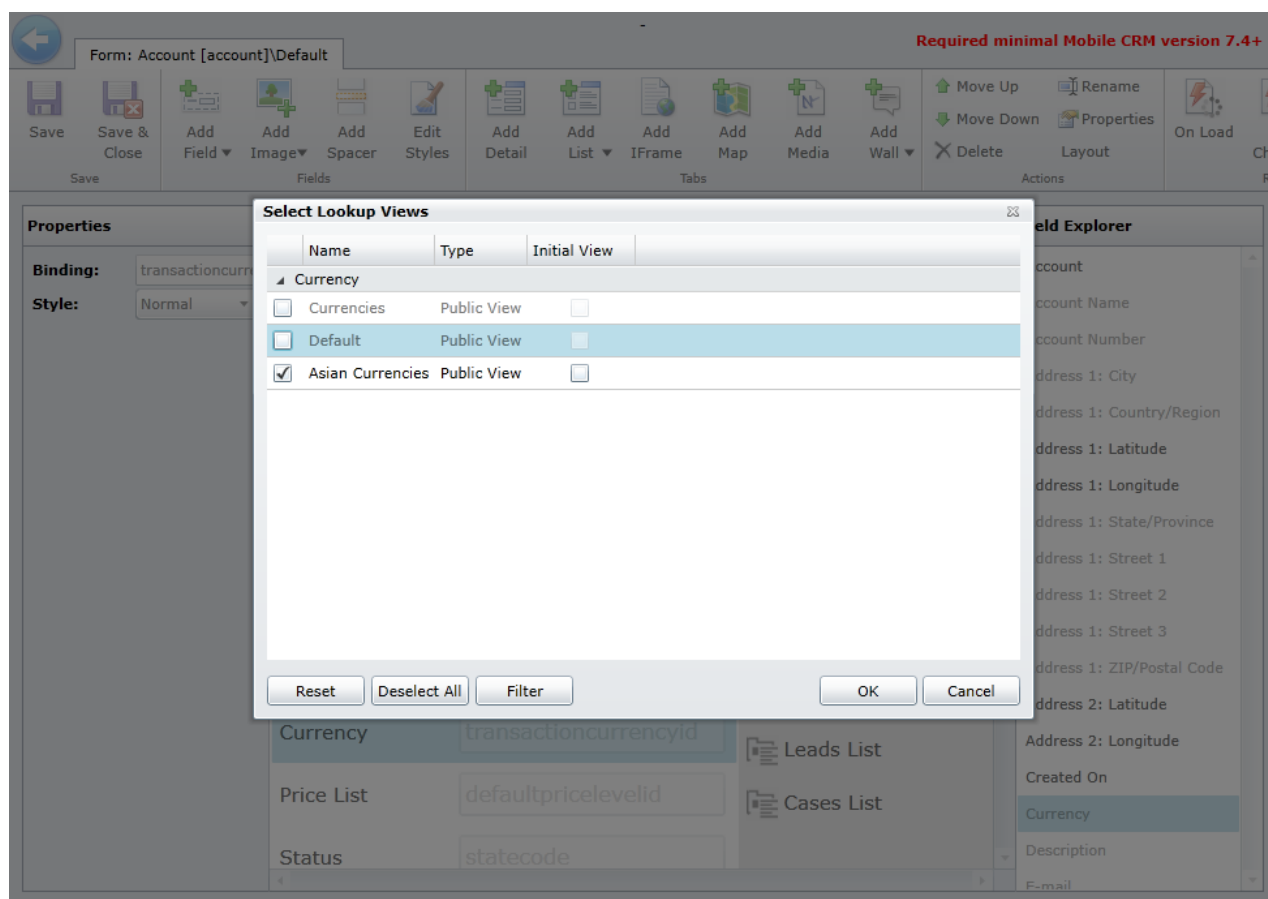


When you select a field on the form designer, you can also select the **Style** that the field should use. You can choose the default or your own custom styles. To create and edit custom styles and to edit the default styles, use the **Style Editor**.

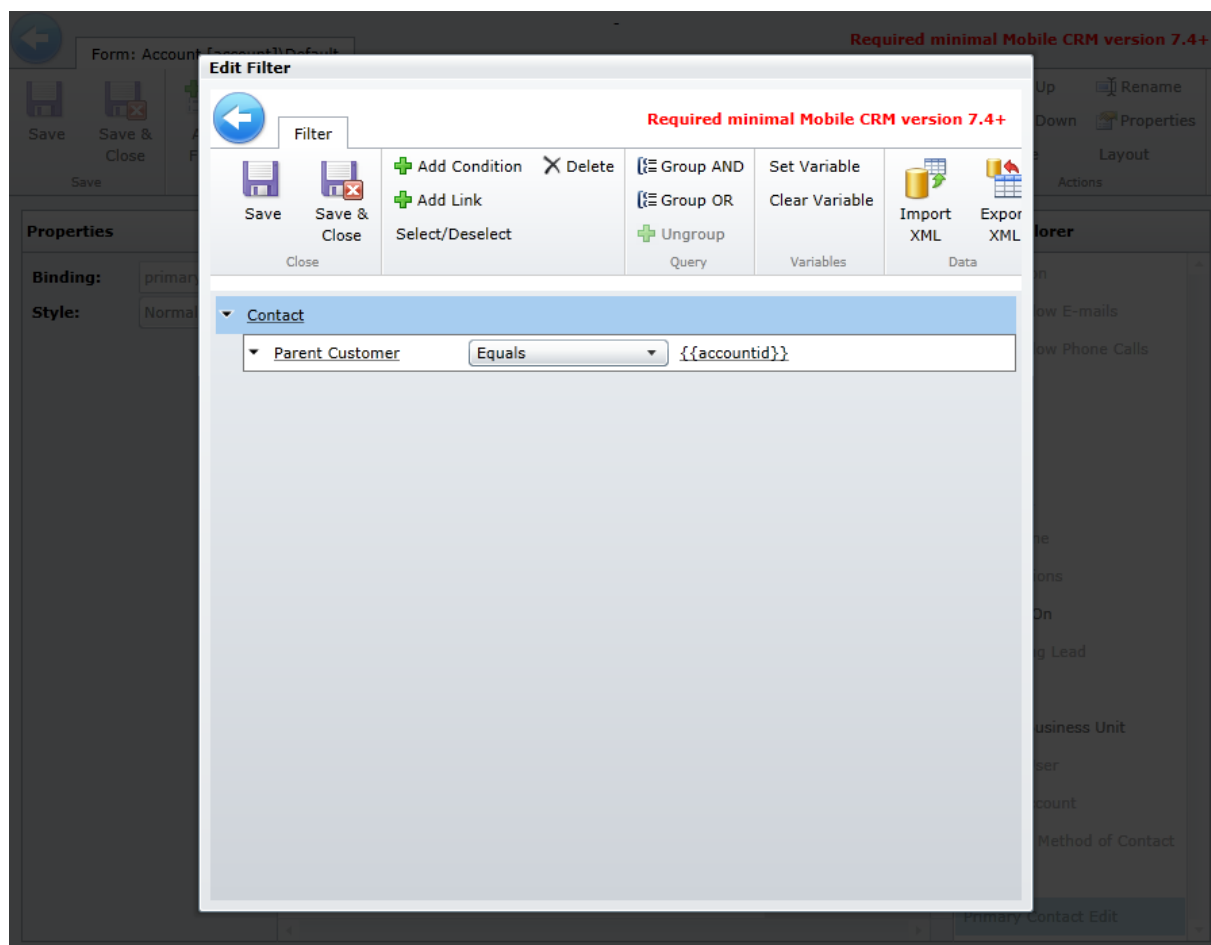
#### 4.5.2.1 Advanced filtering

On lookup fields, and associated lists you can specify views, to be used for the item.

Just double click (select the item and click on Properties) on the item (lookup field on associated list on the form) and select views, that will be used



It is also possible to add additional filter that will be combined with the used view's filter. This can help you narrow the results. E.g. when you want to assign the primary contact to an account, you do not want to have all contacts listed, you only want to see contacts, associated with the account already. You can create a filtered lookup view (section 5.1 Filtered Lookup) or in this case click on the Filter and add additional condition that will be always applied to Primary lookup field.



#### 4.5.2.2 Form item options

Each form item has following options

**Binding** – For detail tabs this defines the tab name. For associated lists it defines the lookup field

**Side** – When using the flexible forms, you can place the tab item to left or right side of the form when viewing the form in full screen

**Header** – When using the flexible forms, you can set what to display as the form header

**Hidden** – The header is hidden and only records are shown (no plus, or flip to button is shown as well)

**Icon & label** – the whole header, including the icon and name will be shown

**Label** – only the tab name is shown

**Width** – Normal means the ordinary size of one tab, Large means that the tab will take size of two tabs

**Height** – Number of rows that will be visible in the tab item, other records will be available using scrolling

**Orientation** – Only available for list items and defines whether records are aligned horizontally or vertically. Scrolling also follows this option

#### 4.5.3 Form Style Editor

The editor enables you to change the default styles, or adding new styles, that can be then assigned to fields on form. The styles are global, for all fields on forms, so if you change a style that is assigned to multiple fields, even to a form on a different entity, these changes are also applied to these fields. Also it does not matter on which form you open and edit the Style Editor.

Properties that can be changed in the Form Style Editor DetailItem (field) are following.

**IsMultiLine** – False means that the text field will be in a single line format, True means that the field will be in multiline format

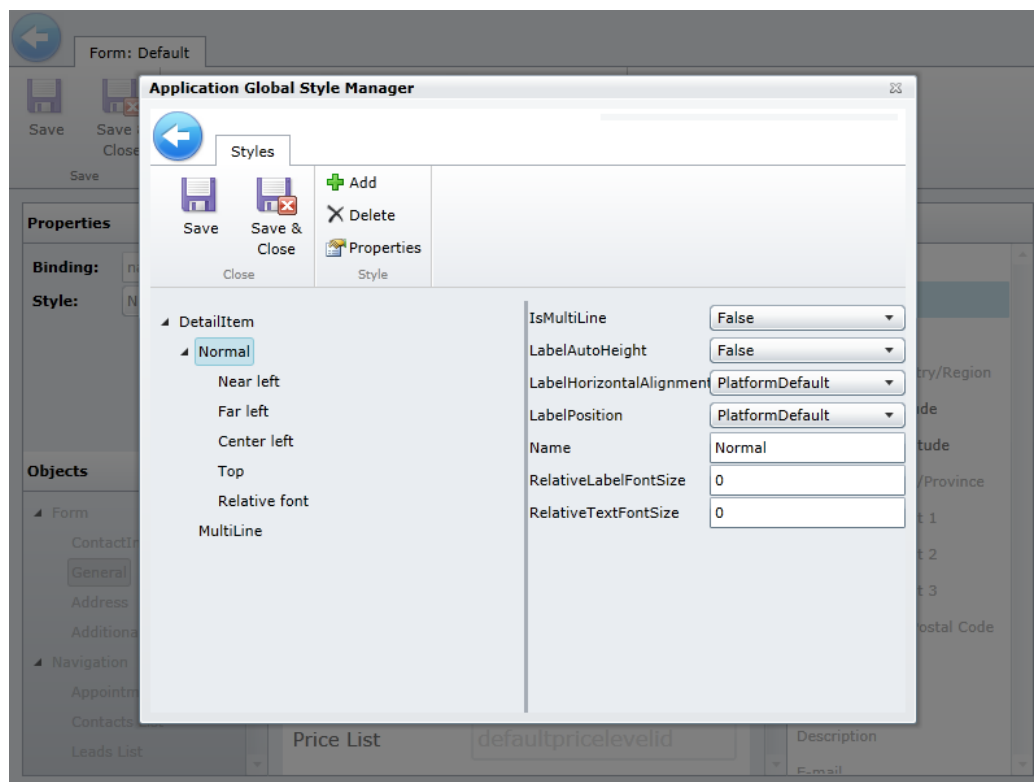
**LabelAutoHeight** – makes the field row higher if needed according to the size of the label

**LabelHorizontalAlignment** – PlatformDefault follows the default alignment of the label according to the platform settings (as is on not customized MobileCRM), Near aligns the label closer to the field, Far aligns the label further from the field and Center centers the label to the middle of the label cell

**LabelPosition** – PlatformDefault follows the default placement of the label according to the platform settings (as is on not customized MobileCRM), Left places the label on the left side of the field, Top places the label on the top of the field (can be useful when the label is long and Right places the label on the right side of the field

**RelativeLabelFontSize** – adjust the size of the label according to the default size by the positive or negative number

**RelativeTextFontSize** - adjust the size of the field text according to the default size by the positive or negative number



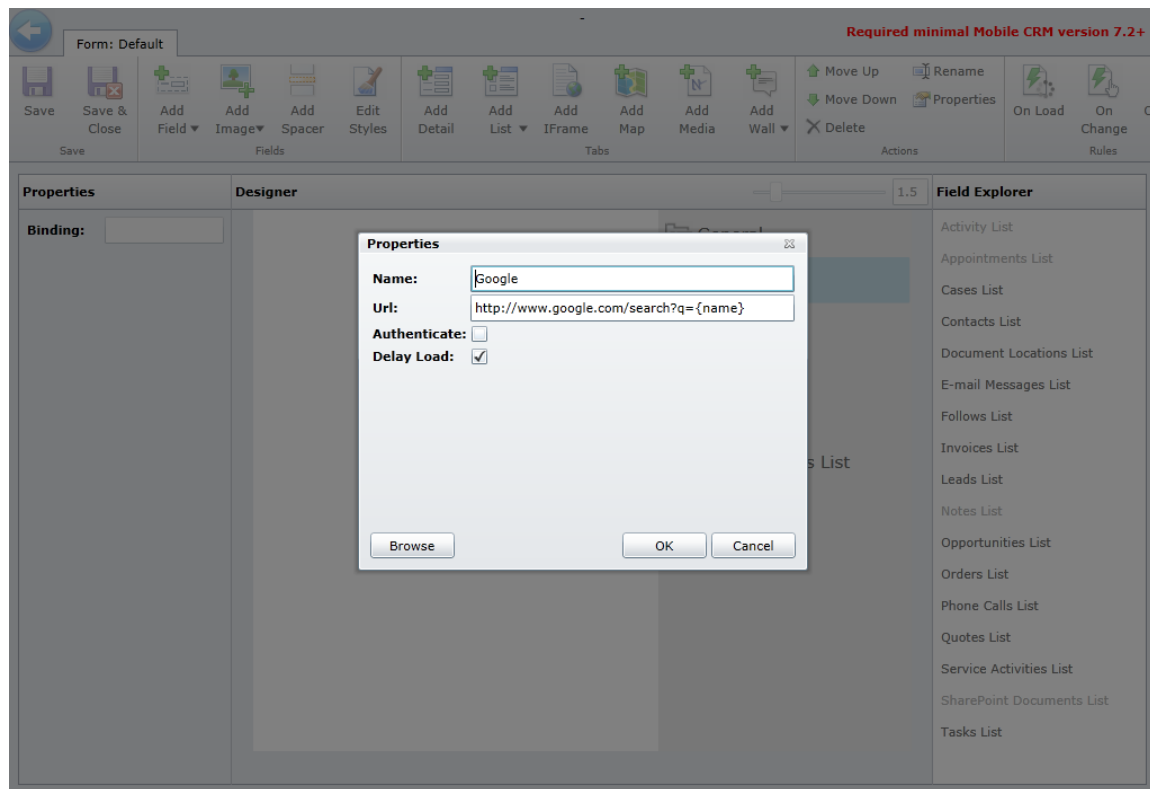
## 4.5.4 Additional Form objects

### 4.5.4.1 Iframe

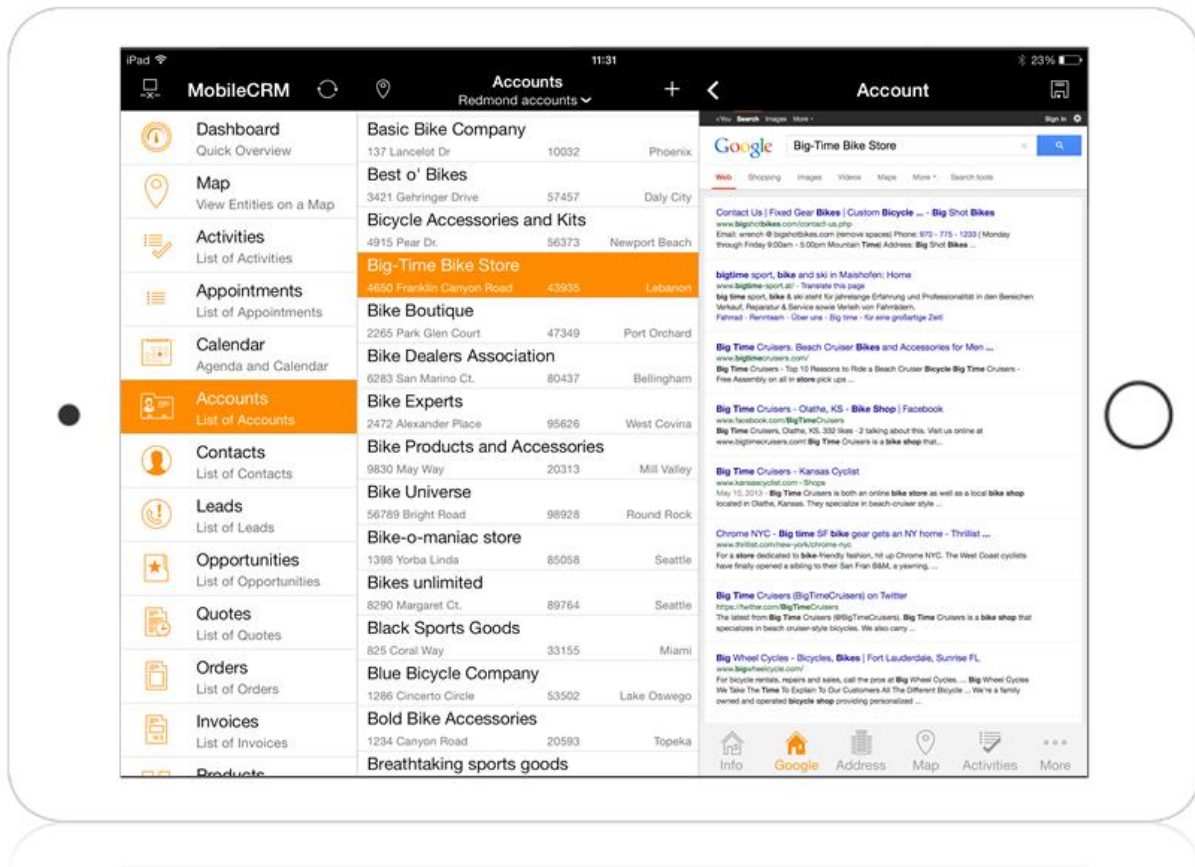
The Iframe is a visual HTML browser window with URL support and it is able to send the entity's properties. You can also authenticate the current Mobile CRM user to use the credentials on the web site. Also as shown on the picture bellow, you can bind an entity property name in {} to the link (e.g. in this case search for the competitor's name).

When Delay Load is enabled, the web site (or offline HTML) is loaded when user opens the tab. When Delay Load is disabled, the web site (or offline HTML) is loaded when the form is opened.

**Note:** The authentication works only for Active Directory connection type.



Here is the visualization of the IFrame functionality in the app:



**Tip:** You can check our [Blog Post](#) about LinkedIn integration (search).

#### 4.5.4.2 Map Frame

The Map frame processes 2 entity's properties: GPS coordinates and visualize them on a map. To be able to set the map coordinates, the entity (in this case Accounts) must possess the latitude and longitude enabled property.

#### Prerequisites for the Map, GPS and Geocoding, as well as Update GPS option on custom entity's form

To be able to see the action button and to be able to use the Update GPS to assign the current GPS enabled device's GPS coordinates to custom entity fields, these are the steps that need to be done in order to use it.

The entity must have a floating point number fields which names end with „latitude“ and „longitude“ e.g. GPS\_coordinates\_latitude and GPS\_coordinates\_longitude or as in case of Accounts, Contacts and Leads Address1: Latitude and Address1: Longitude and the field must be Floating Point Number type.

Precision need to be set to 5 decimal numbers Maximum Value to 180.00000, Minimum Value to -180.00000.

Field  
**Address 1: Longitude of Account**

Working on solution: Default Solution

**Common**  
Information

General

**Schema**

Display Name \* Address 1: Longitude Requirement Level \* No Constraint

Name \* address1\_longitude Searchable Yes

Field Security  
☐ Enable ☒ Disable

Auditing \*  
☒ Enable ☐ Disable

**Description**  
Longitude for address 1.

For information about how to interact with entities and fields programmatically, see the [Microsoft Dynamics CRM SDK](#)

**Type**

Type \* Floating Point Number

Precision \* 5

Minimum Value \* -180,00000

Maximum Value \* 180,00000

IME Mode \* disabled

To add it to the form, click on the Form under Objects and select **Add Map**.

Project: SalesApp

Publish All

+ Add Images

+ Add Offline HTML

Save

Project Fields

Fields Search: All

| Display Name                                             | Name                    |
|----------------------------------------------------------|-------------------------|
| <input type="checkbox"/> Address 1: Address Type         | Address1_AddressType    |
| <input type="checkbox"/> Address 1: County               | Address1_County         |
| <input type="checkbox"/> Address 1: Fax                  | Address1_Fax            |
| <input type="checkbox"/> Address 1: ID                   | Address1_AddressId      |
| <input checked="" type="checkbox"/> Address 1: Latitude  | Address1_Latitude       |
| <input checked="" type="checkbox"/> Address 1: Longitude | Address1_Longitude      |
| <input type="checkbox"/> Address 1: Name                 | Address1_Name           |
| <input type="checkbox"/> Address 1: Post Office Box      | Address1_PostOfficeBox  |
| <input type="checkbox"/> Address 1: Shipping Method      | Address1_ShippingMethod |
| <input type="checkbox"/> Address 1: Telephone 1          | Address1_Telephone1     |
| <input type="checkbox"/> Address 1: Telephone 2          | Address1_Telephone2     |
| <input type="checkbox"/> Address 1: Telephone 3          | Address1_Telephone3     |
| <input type="checkbox"/> Address 1: UPS Zone             | Address1_UPSZone        |
| <input type="checkbox"/> Address 1: UTC Offset           | Address1_UTCOffset      |

9/74 Selected

**Field Properties**

**Permissions**

☒ Read

☒ Create

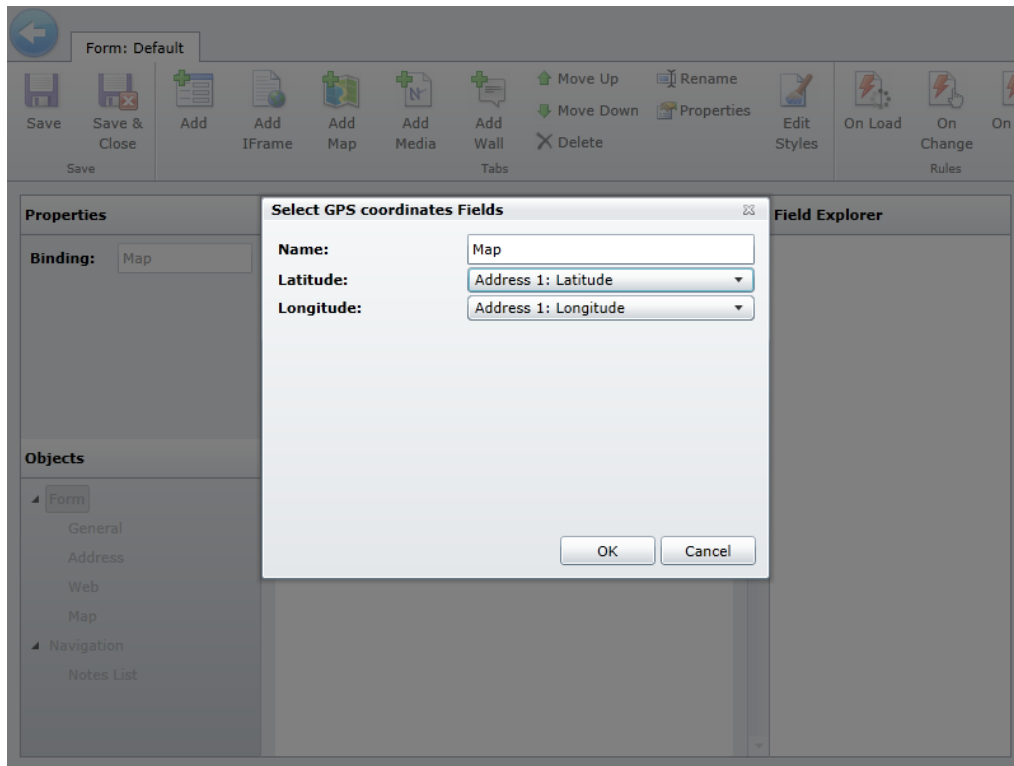
☒ Update

**Requirement Level**  
None

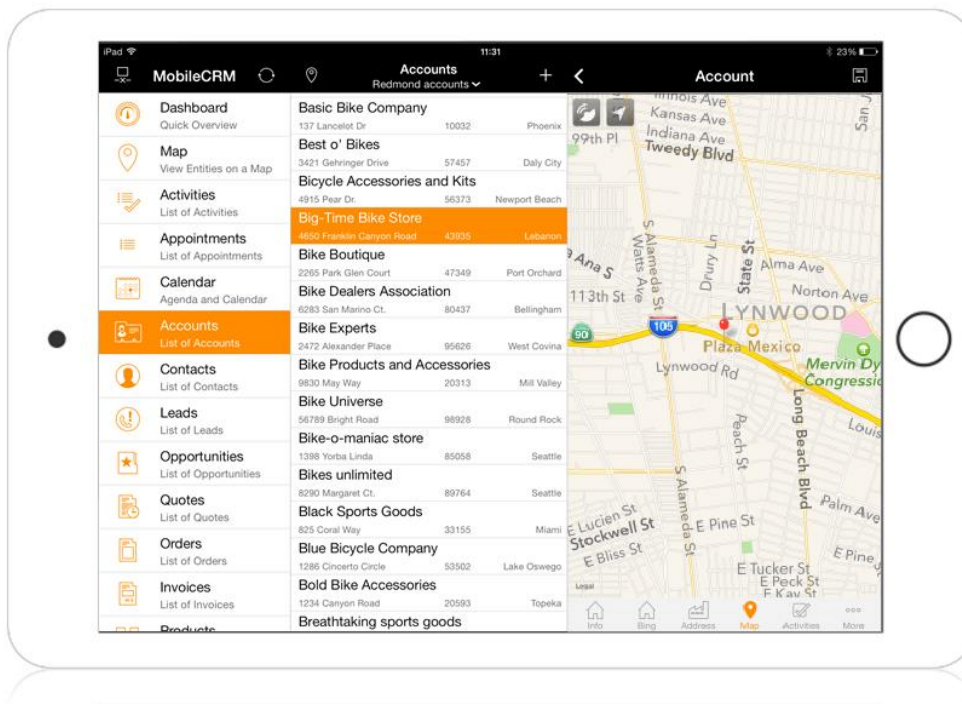
**Constraints**  
-180,180

**Precision**  
5

**Description**  
Longitude for address 1.



Here is the visualization of the Map Frame functionality in the app:



#### 4.5.4.3 Media tab

There is a specific tab, **Add Media**. Using this tab type, you can set up adding different files, attachments to a note. By default it is set as signature tab, but you can set it up for other actions, like capture photo, record video and more. You can also make a certain action required for specific status. Name represents a name of the tab and Subject represents Subject, or Title of the Note, where the file is attached.



**Configure Media Tab**

**Name:** Signature or recording

**Required for Status:**

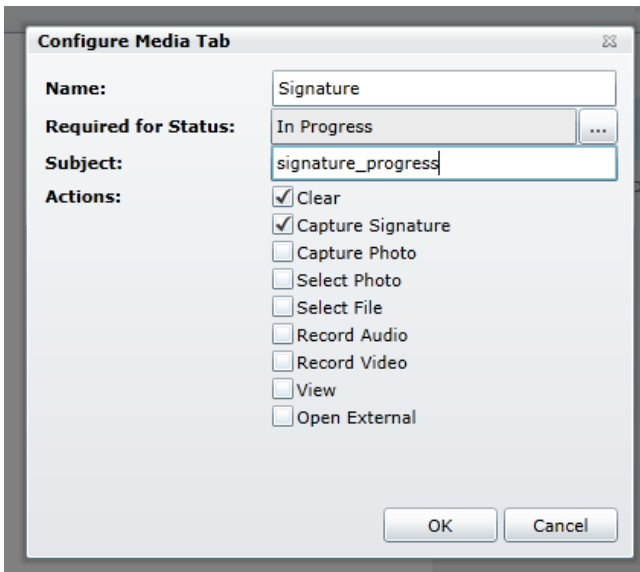
**Subject:** Signature\_recording

**Actions:**

- ☒ Clear
- ☒ Capture Signature
- ☐ Capture Photo
- ☐ Select Photo
- ☐ Select File
- ☒ Record Audio
- ☒ Record Video
- ☐ View
- ☒ Open External

OK Cancel

(Example in the screenshot below: to change the records status to „In Progress“, the user needs to input customer’s signature)



**Configure Media Tab**

**Name:** Signature

**Required for Status:** In Progress

**Subject:** signature\_progress

**Actions:**

- ☒ Clear
- ☒ Capture Signature
- ☐ Capture Photo
- ☐ Select Photo
- ☐ Select File
- ☐ Record Audio
- ☐ Record Video
- ☐ View
- ☐ Open External

OK Cancel

*Note: You can add as many Media frames (tabs) as you like, each with different option. So you can have dedicated signature tab, dedicated photo/picture tab, record tab etc.*

#### 4.5.4.4 Form Rules – On Load, On Change, On Save

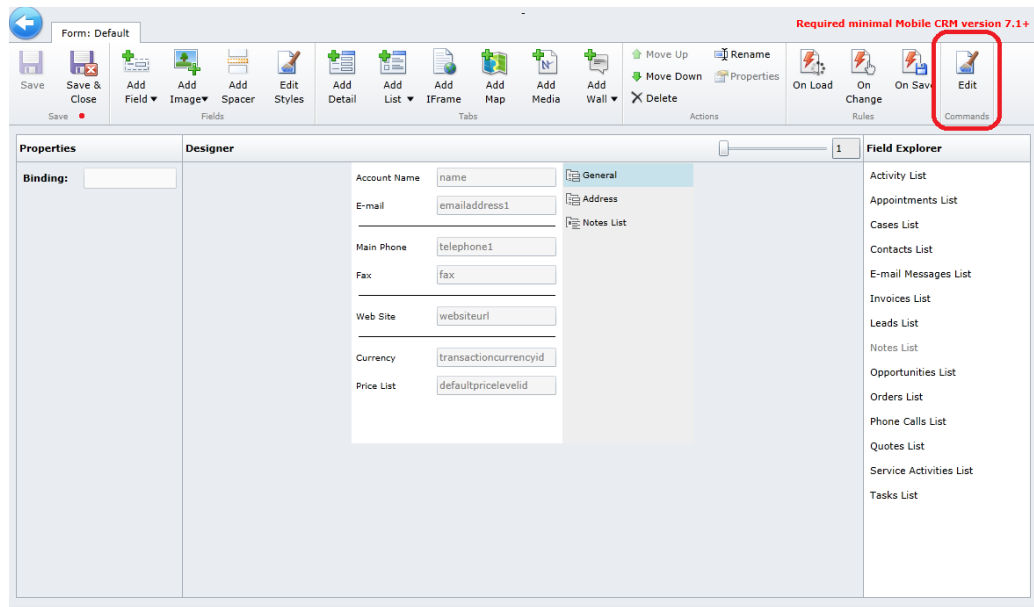
Form Rules is a pseudo-scripting language that allows you to create conditions and steps, to be performed.

Rules guide is available as a separate document here: [Mobile CRM Woodford - Rules Guide](#)

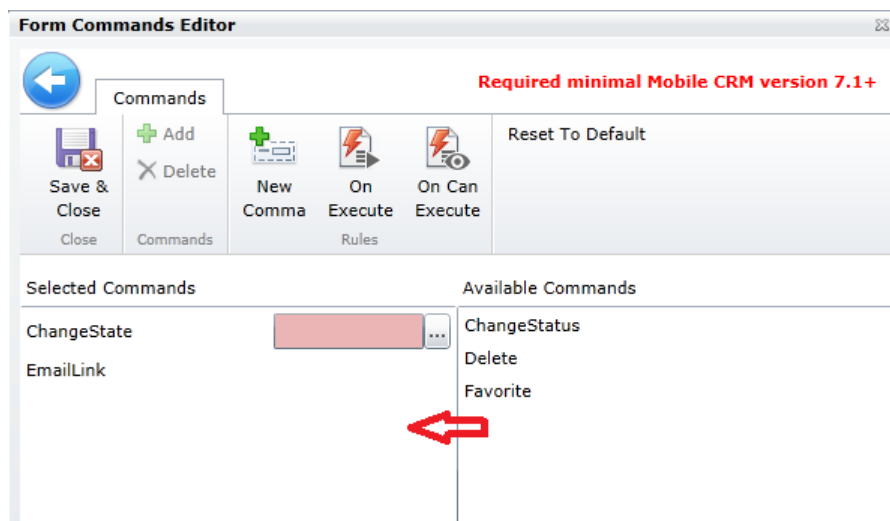
You can also check our [Blog post dedicated to Form Rules](#), Webinar videos [Form Rules Basics](#), and [Form Rules in Action](#)

#### 4.5.4.5 Edit Commands

Using Edit Commands button, you can manage what commands will be available for users.



By moving commands from section Available to Selected, you enable this command to be available on the entity Edit Form.



If there is an item, that has multiple options (like ChangeState,ChangeStatus), you also need to set, which options will be available on the command.

Default commands have the following functionality

**ChangeState** – Change state code of a record. You can also specify which state options will be available to user. Each state option will be displayed as separate command

**ChangeStatus** - Change status code of a record. You can also specify which status options will be available to user. Each state option will be displayed as separate command

**Delete** – Deletes the record from database. If it is performed in offline, after synchronization it is also deleted from the CRM server

**EmailLink** – Creates an email with links to the record for CRM server and for Mobile CRM application.

**Favorite** – Adds/Removes record from Favorites. You also need to add Favorites to Home to give user way to access favorite records.

**PrintReport** – Runs a report. For more information please check this Blog post <http://blog.resco.net/2015/03/03/run-reports/>

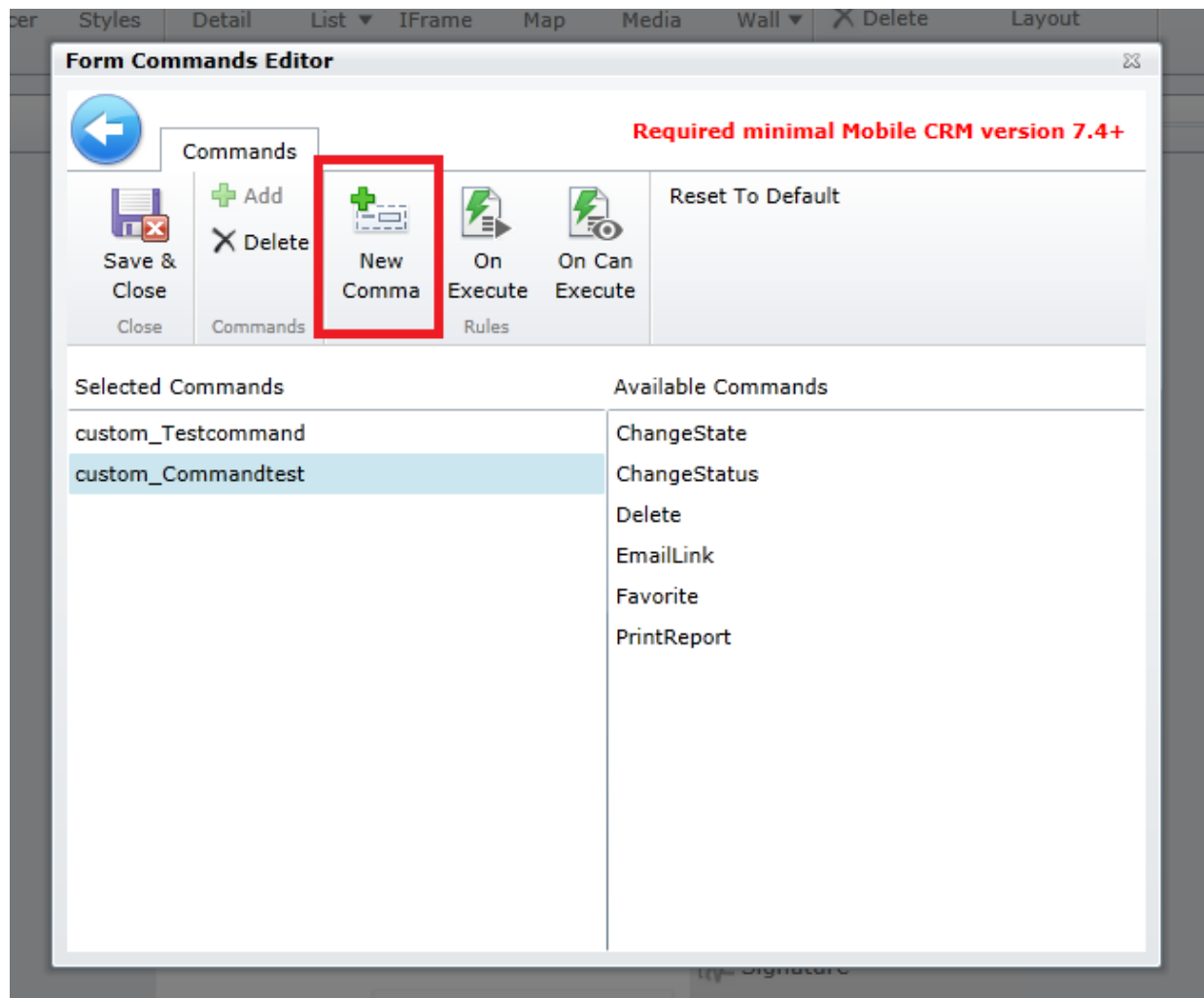
**Scan** – Only on new record of Contact and Lead entity – Starts barcode scanner and by scanning VCard/Me Card enabled QR code on a business card (or elsewhere) will fill in appropriate fields of a new record.

**ScanBusinessCard** – Only on Contact and Lead entity – Similarly to the previous, but runs CamCard application to scan business card and using text recognition fills in appropriate fields. You need to have **CamCard** application installed on your device

Each command can be adjusted using On Can Execute and On Execute rules. More about these rules can be found in the next section

#### 4.5.4.6 Custom Commands

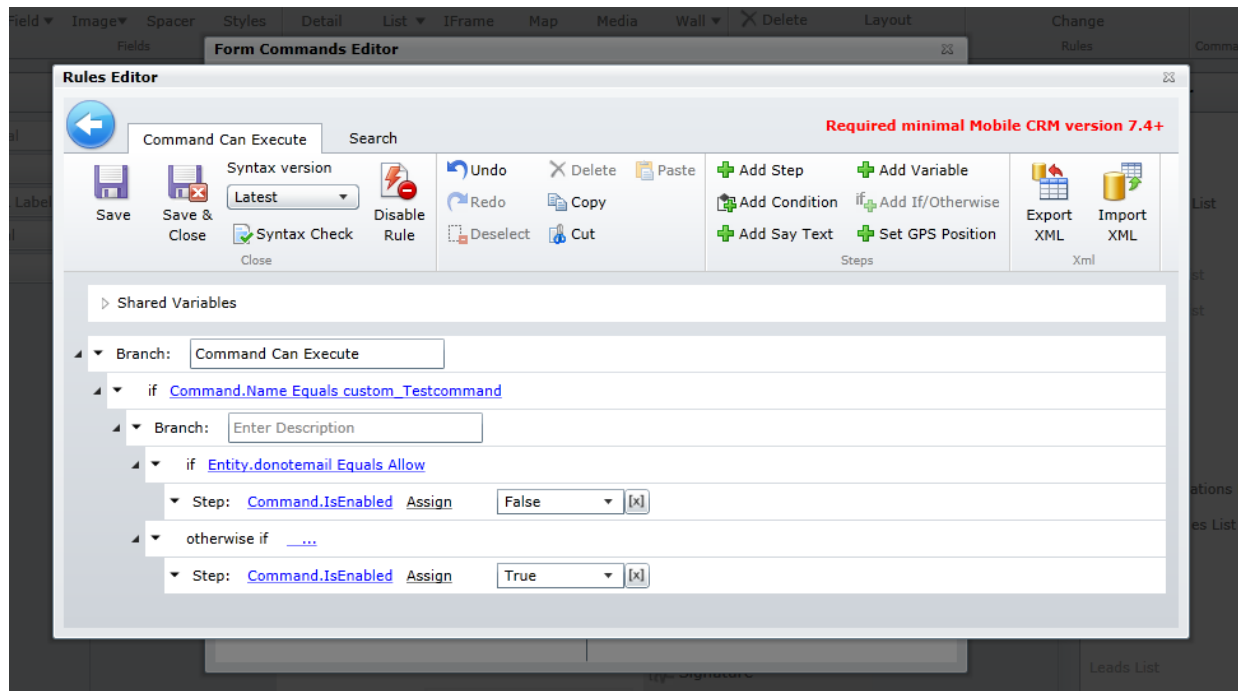
You can also create custom commands, where you can define, under which condition the command will be available, and what to do at user action (when the command is used).



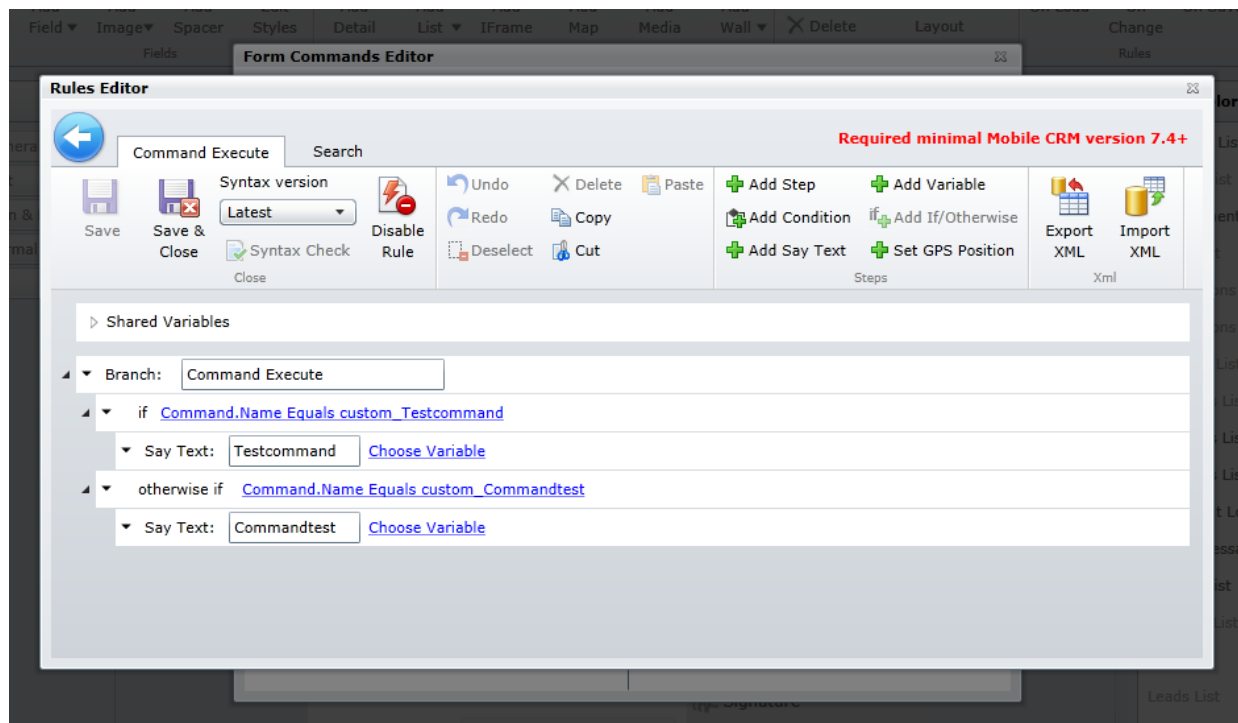
It is also possible to connect custom command with offline HTML with Java Script and perform actions, that are not available using command Rules.

For commands (default and custom) you can also define On Execute and On Can Execute commands.

On Can Execute rule defines when the command will be available for user. In this rule, you specify in what situation user can see and use the command, so you can hide a command in situation, when the command's action is not suitable.

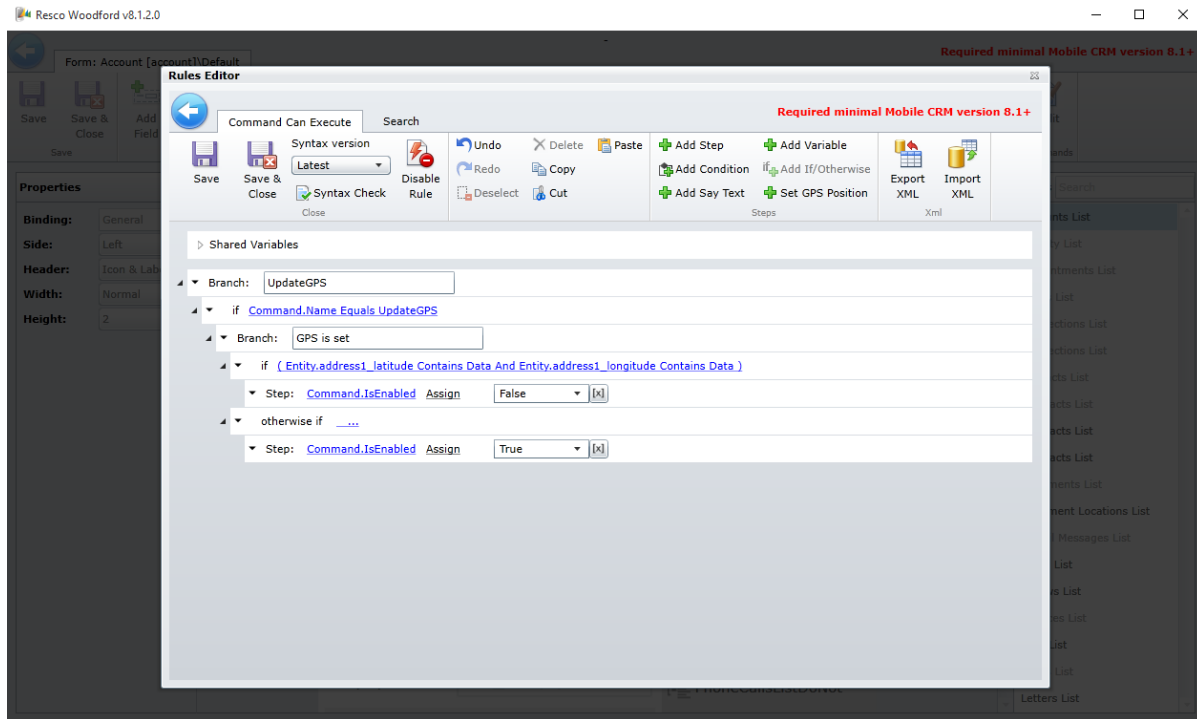


On Execute rule defines the actions that the command performs. You can specify what will be performed by the command, when user initiates it. It can be filling some data, hiding fields etc.

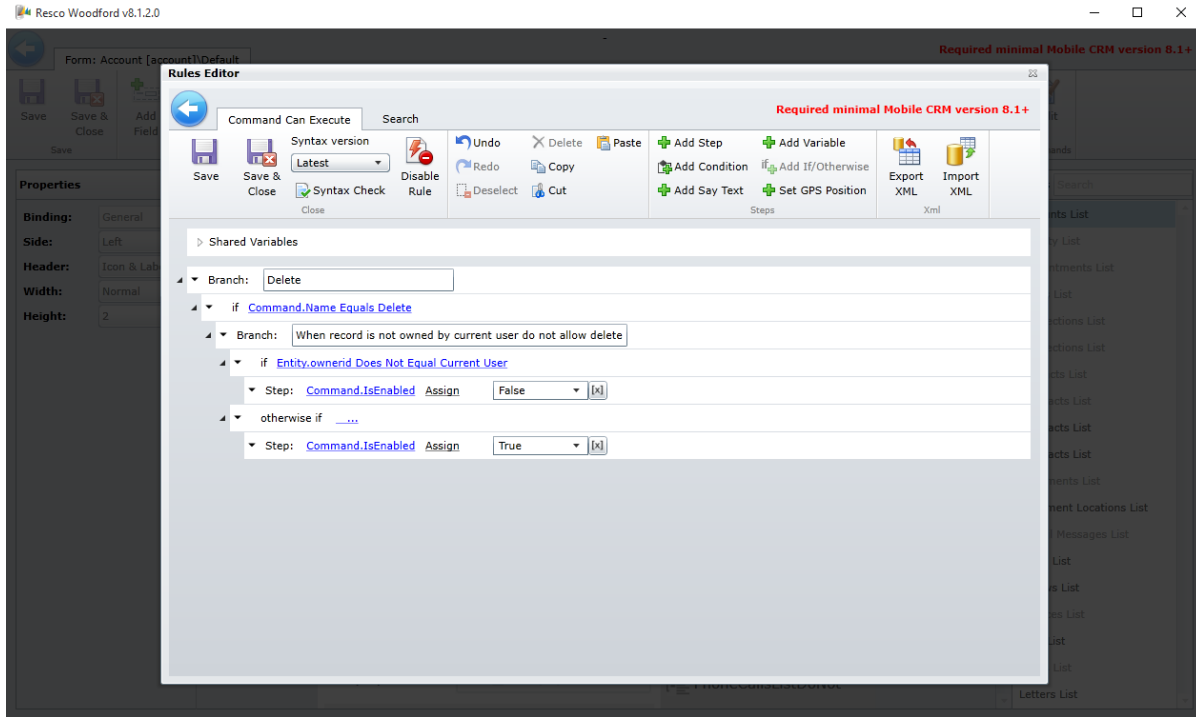


#### 4.5.4.6.1 On Can Execute Example

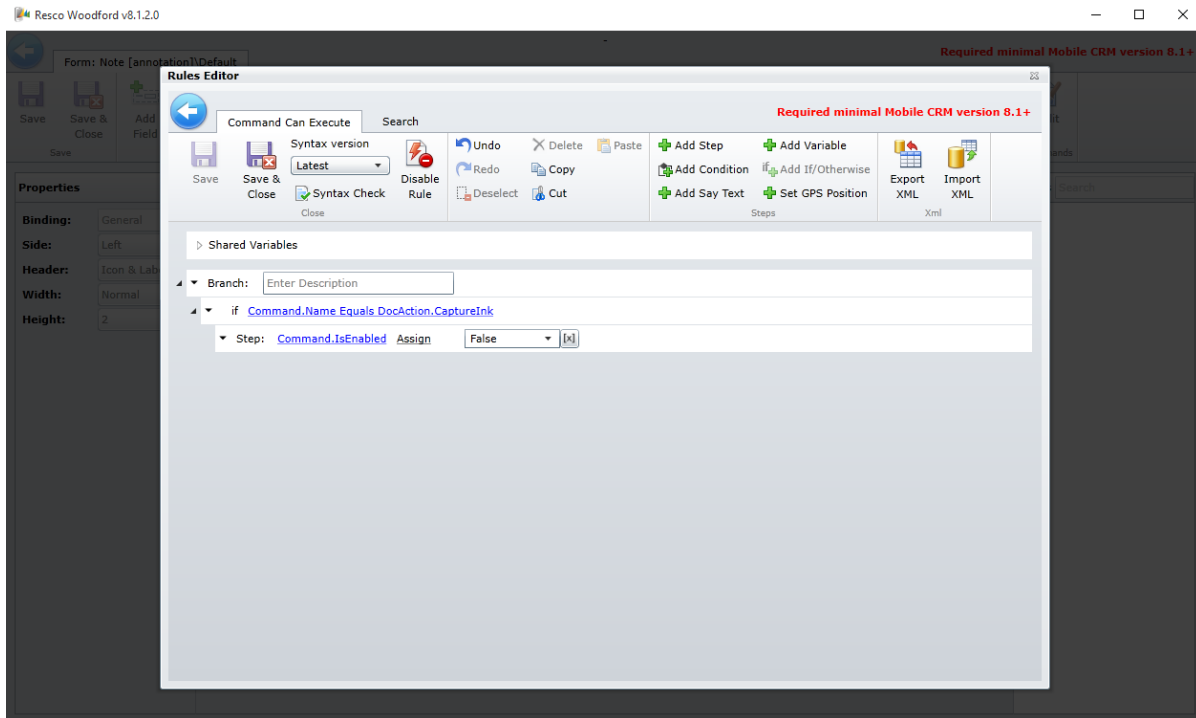
A simple example is the Update GPS command on the Edit form's Address tab. Like users should not change the GPS position of a record, that already has the GPS position set. So you can hide this command in such situation



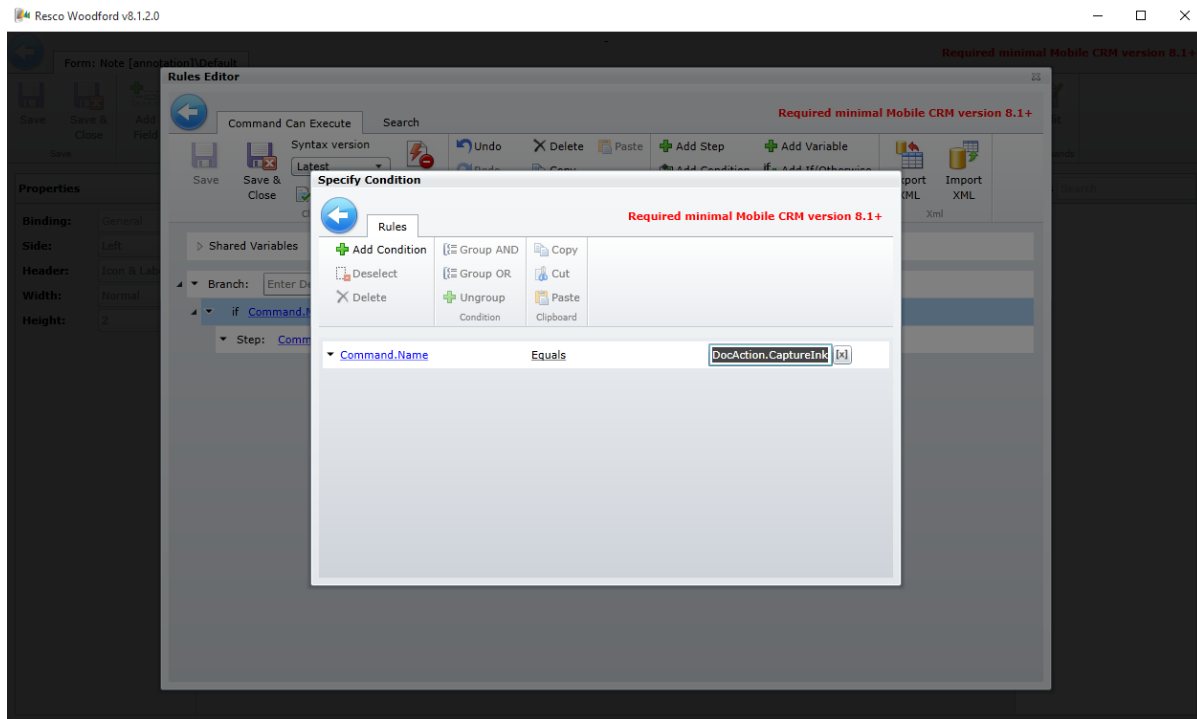
Another example is when you want to disable user from deleting a record. You can disallow deleting records when you do not put Delete command on Selected commands section, but what if you want them to delete commands in some situation? In this case you add Delete command but hide it in specific situation. In this case we will not allow user to delete records that are owned by different user.



Yet another example can be when you do not want to have Signature on Note's Attachment. To disable it, you need to go to Note's Form and adjust the On Can Execute rule



The tricky part can be setting the command's name. It needs to be exactly DocAction.CaptureInk, case sensitive.



Here is list of all DocActions, so all the possibilities you can do with Note attachment's commands.

Actions for empty Attachment

Configures the view for Capturing Signature. When disabled, list of available commands is shown

### **CaptureInk**

Asks the user to capture a photo and loads the chosen media into the view

### **CapturePhoto**

Asks the user to choose a media (image, video, depending on what the platform supports) and loads the chosen media into the view

### **SelectPhoto**

Asks the user to choose a file and loads it into the view

### **SelectFile**

Asks the user to record an audio note and loads it into the view

### **RecordAudio**

Asks the user to record a video and loads it into the view

### **RecordVideo**

Actions for non-empty Attachment, i.e. when there is a file attached to a Note

Clears the view and marks it as empty

#### **Clear**

Shows a preview of the loaded document (fullscreen, etc.)

#### **View**

Opens the loaded document in an external application. Which application will be used, is platform specific

#### **OpenExternal**

Find external application for opening specific document. Find method is platform specific (i.e. find on Android Market)

#### **FindApp**

Saves file in device, platform specific

#### **Download**

Copy image to clipboard

#### **Copy**

Paste image/file from clipboard

#### **Paste**

Prints the document

#### **Print**

Let user to choose smaller image resolution

#### **ResizeImage**

Let user import VCard attachment (handled in common code)

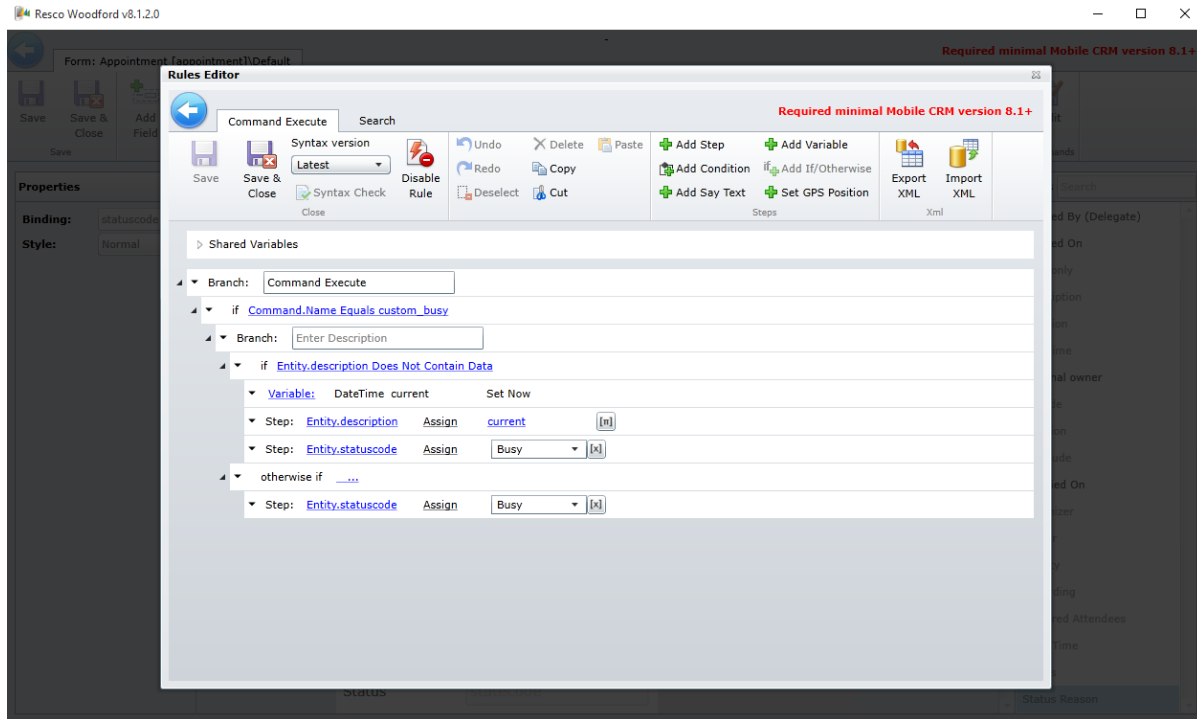
#### **Import**

Pass document to edit in external app (Microsoft office so far)

#### **Edit**

#### 4.5.4.6.2 Can Execute Example

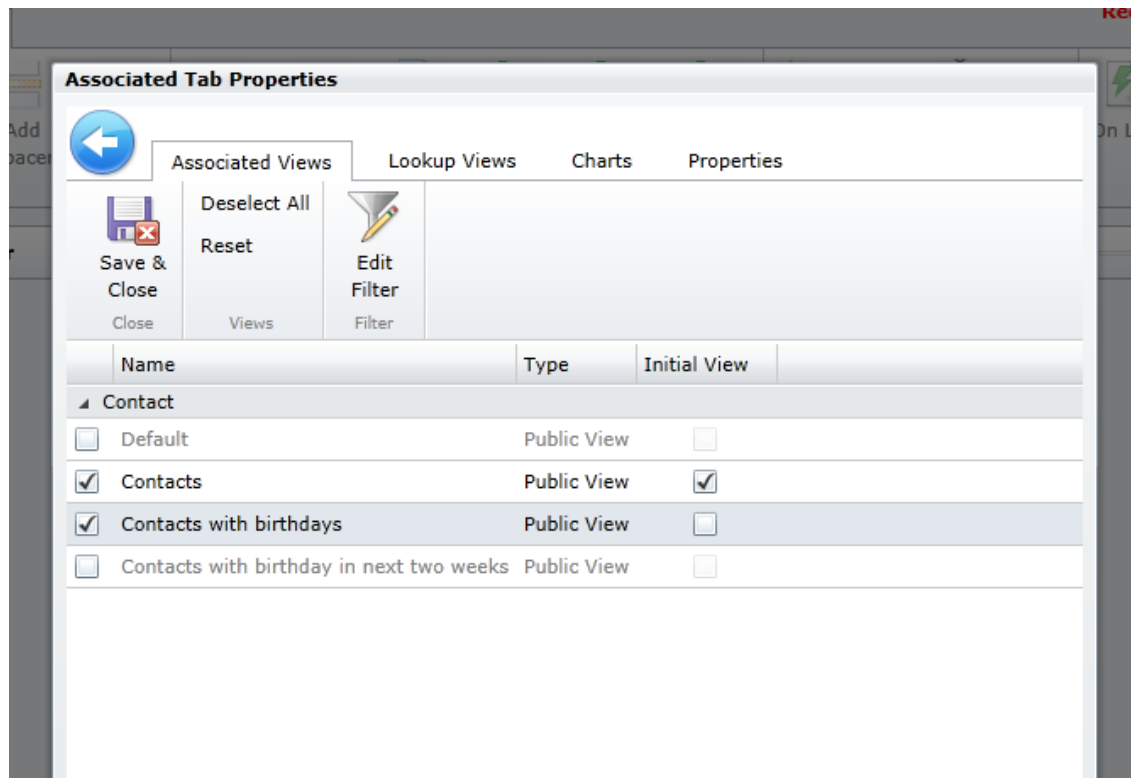
Can execute rule can define what exactly should a command do. You can for example fill in some specific fields and sets the status code as busy.



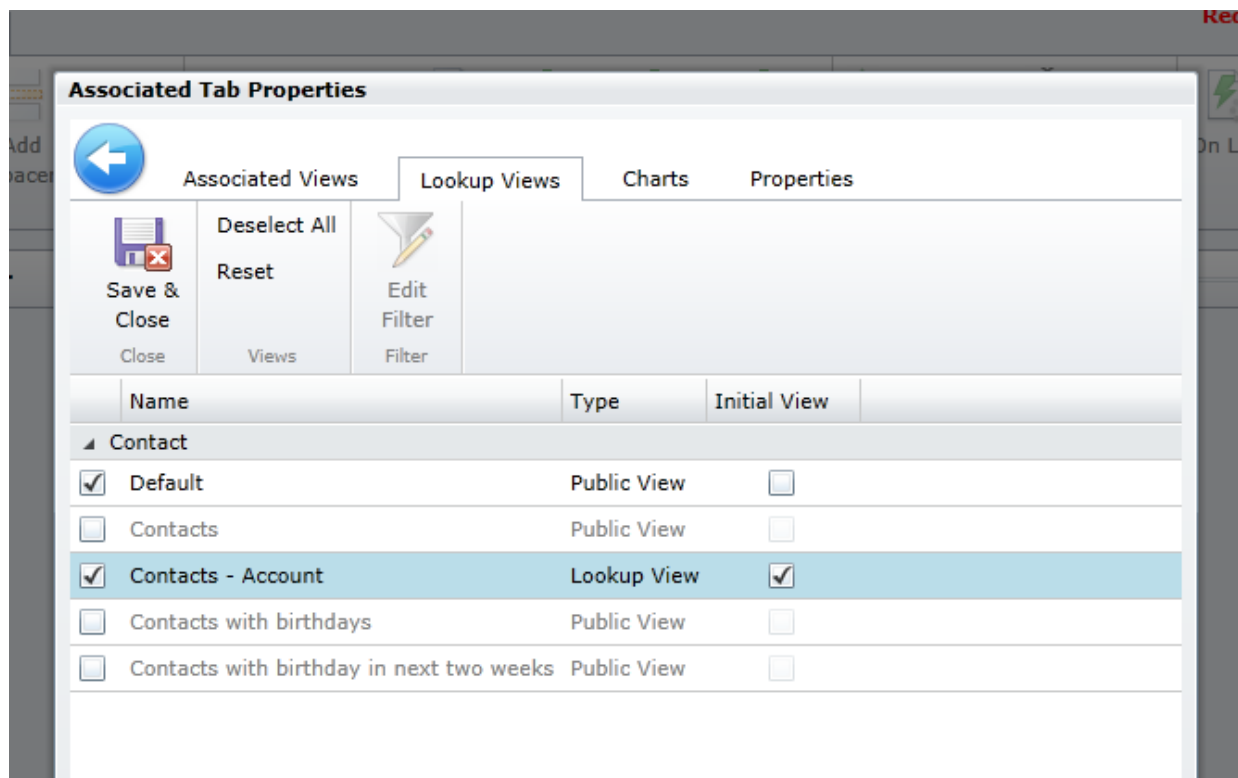
#### 4.5.4.7 Additional options for associated lists

When you select an associated list, and click on Properties (or double click on the associated list), the options for the list will be displayed in section.

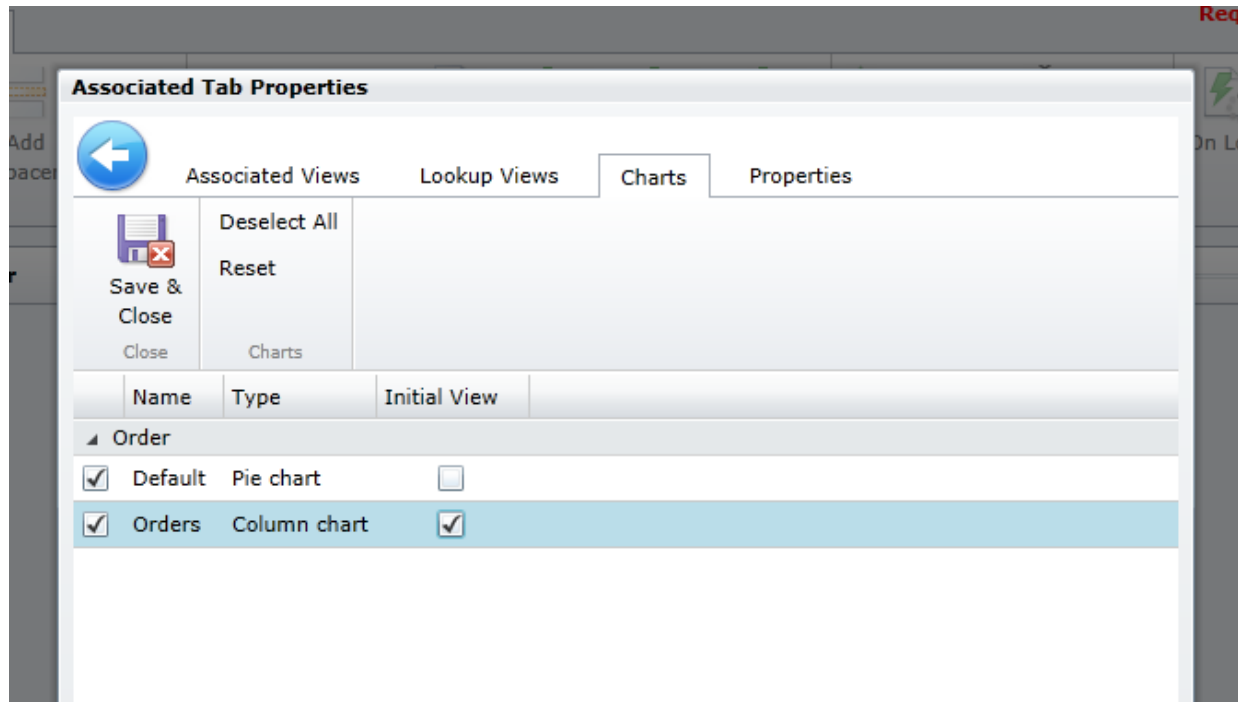
**Associated Views** – Here you can define which views you want to have available on the associated tab, and define additional filter for all associated views



**Lookup Views** – Similarly as above, you can define which view will be used as lookup (associating a new record)



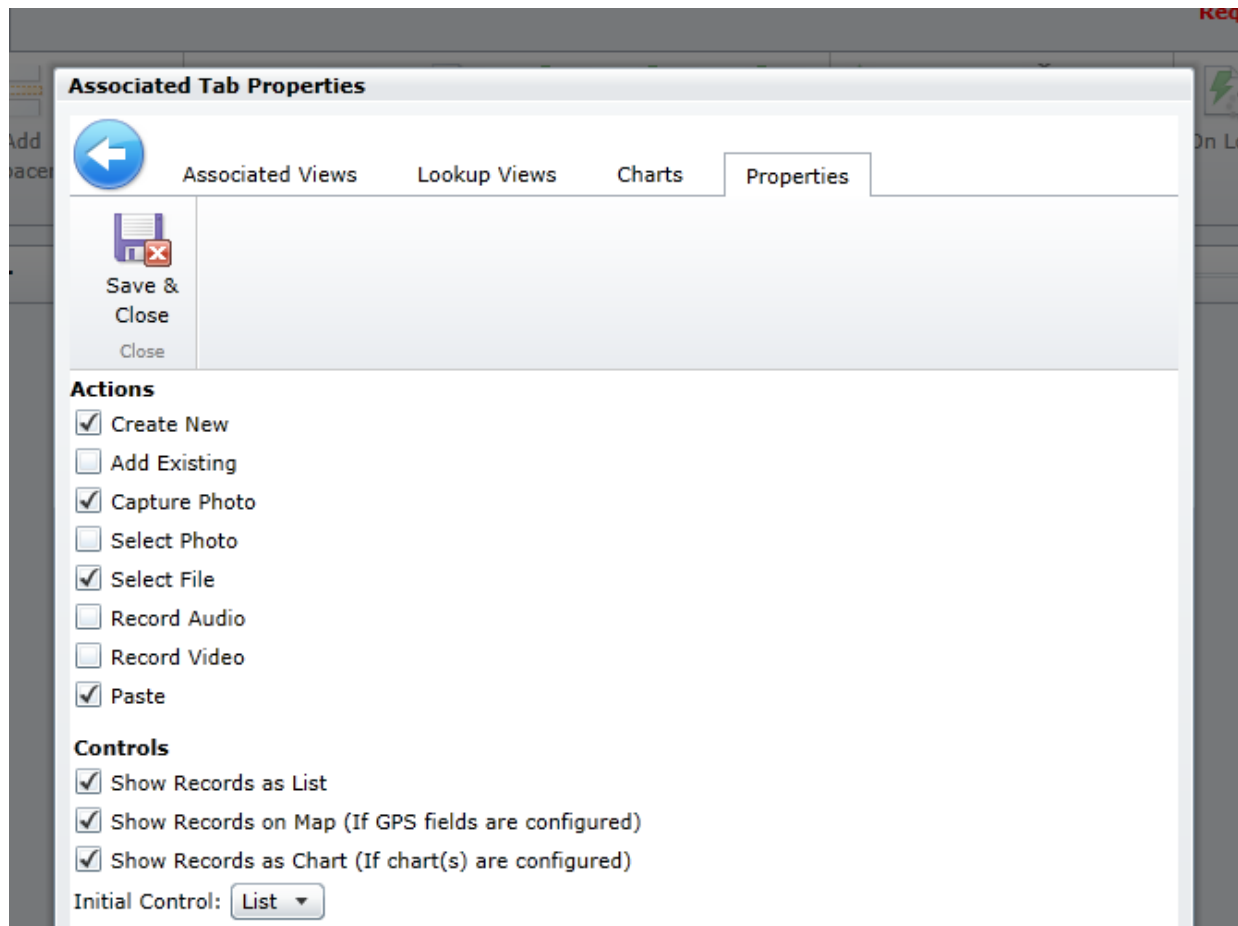
**Charts** – Again, you can define which charts will be available for the flip to chart functionality



**Properties** – options available on the Properties tab depends on the type on associated tab.

**Actions** – Here you can define what actions/command will be available. On most of associated items you will have option Create New and Add Existing. This defines whether user can only create a new associated record or associated already existing record using the plus button on the associated item's header.

**Controls** – In controls you manage the available options of displaying the associated item data. Either to show them as list, or flip to a Map view or to a Chart view. By disabling on of the options, you remove the option to flip data. If you only leave the List option enabled, the flip to...button will be removed. Initial control defines, which display type will be used as the initial one.



#### 4.5.4.8 Placeholder text

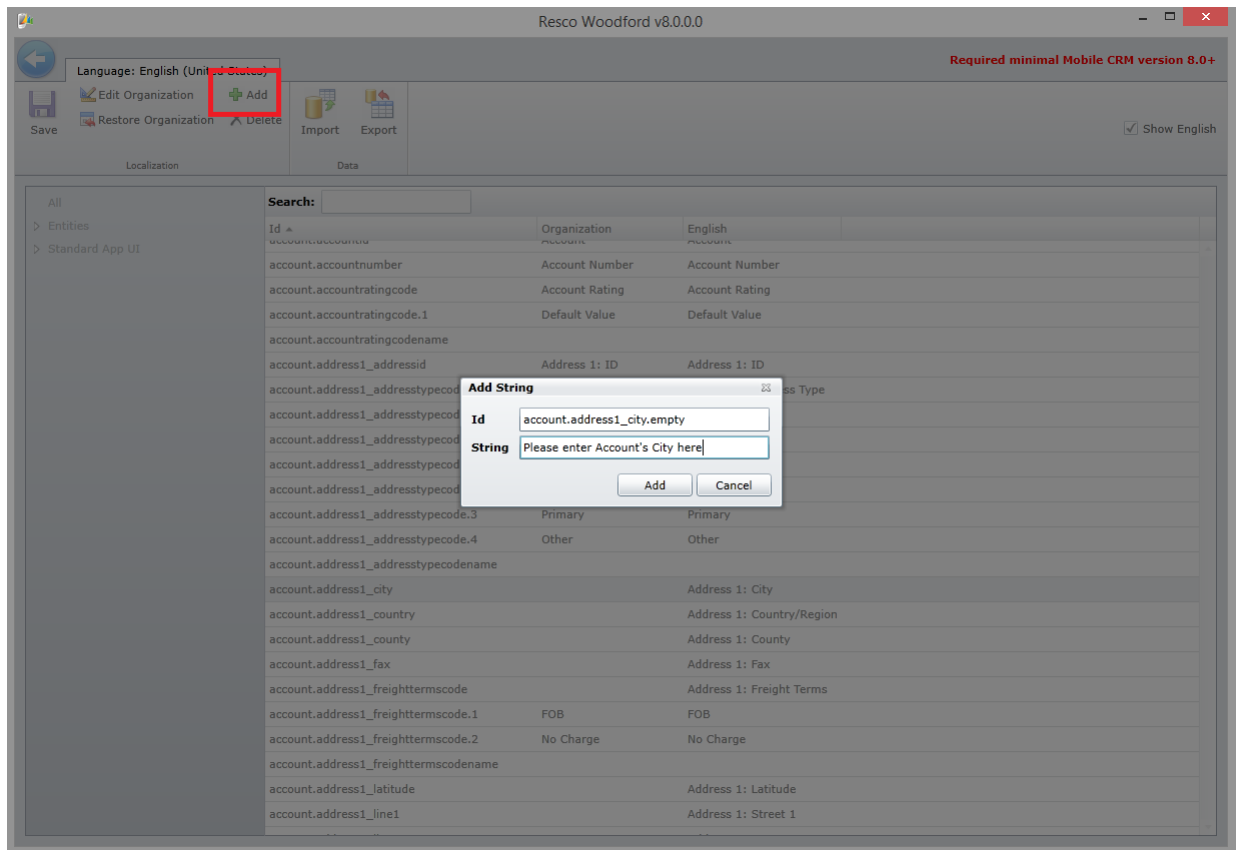
If you want to advise users what to enter to a field, you can use this feature. Placeholder text means, that when a field is empty, it contains a text that gives a hint to user, what to enter there, or some specific instructions. Once user taps on the field to enter data there, the placeholder text is cleared.

There are two options how to enter such text. One is a static one, using Localization, and the other is both, static or dynamic, where you set placeholder text using edit form Rules.

##### Localization approach

Go to project's level (or organization level) localization, and add a new localization string.

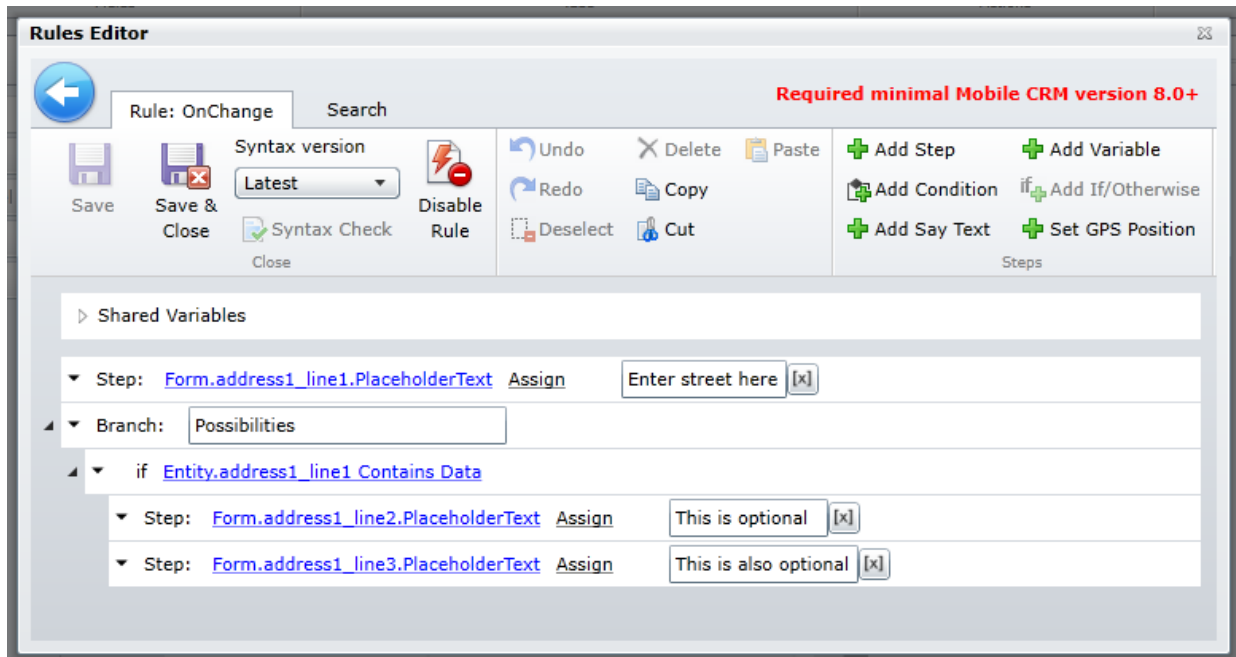
As Id please enter the entity name, field name and empty in form **entity\_name.field\_name.empty**



## Edit form Rules approach

Using edit form Rules, you can set a placeholder text as static, or change it dynamically.

In this example, in OnChange rule, the placeholder text for address1\_line1 is static and when user enters data to the address1\_line1, the placeholder text for address1\_line2 and address1\_line3 shows up.



## 4.6 New UI

Disclaimer: If you want to use the New User Interface, we recommend to start with importing a default project we've created into Woodford. It's available for download [here](#).

This project contains preconfigured settings of views, forms and images. These settings ensure the New UI will behave correctly.

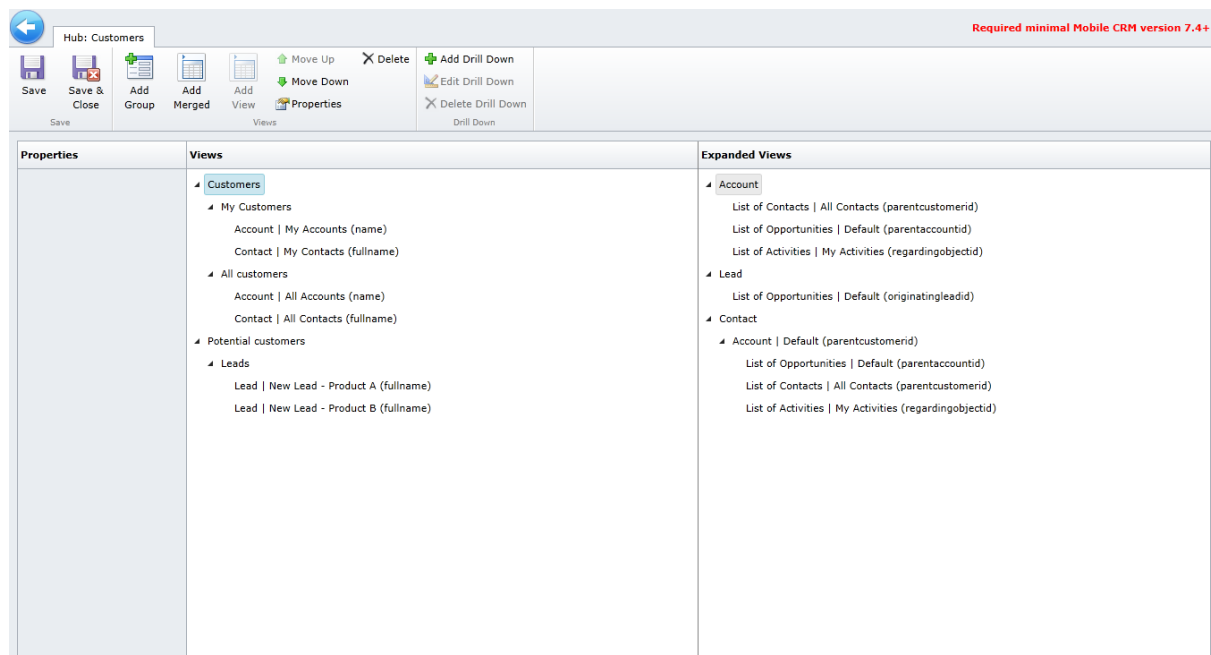
Building a New UI project consist of two parts. Creating Hubs and setting up Flexible Forms (simply put: new way of displaying fields and associated lists).

### 4.6.1 Hubs

Hubs combine records that have something in common. These can be records that represent your customers (like Accounts, Contacts and Leads) or are a part of the sales process (Leads, Quotes, Opportunities, Orders, Invoices) etc.

In hubs, you can display not only the records themselves, but also associated records that help users access more information from one place.

Note: How you decide to combine entities into hubs is up to you, it all depends on how you use your CRM and what makes sense in your case. The only restriction is: the entities merged into one hub need to have a common type of field that will affect the sorting of the view (e.g. for accounts, contacts and leads the common field can be the name. For activities it can be the scheduled end date).

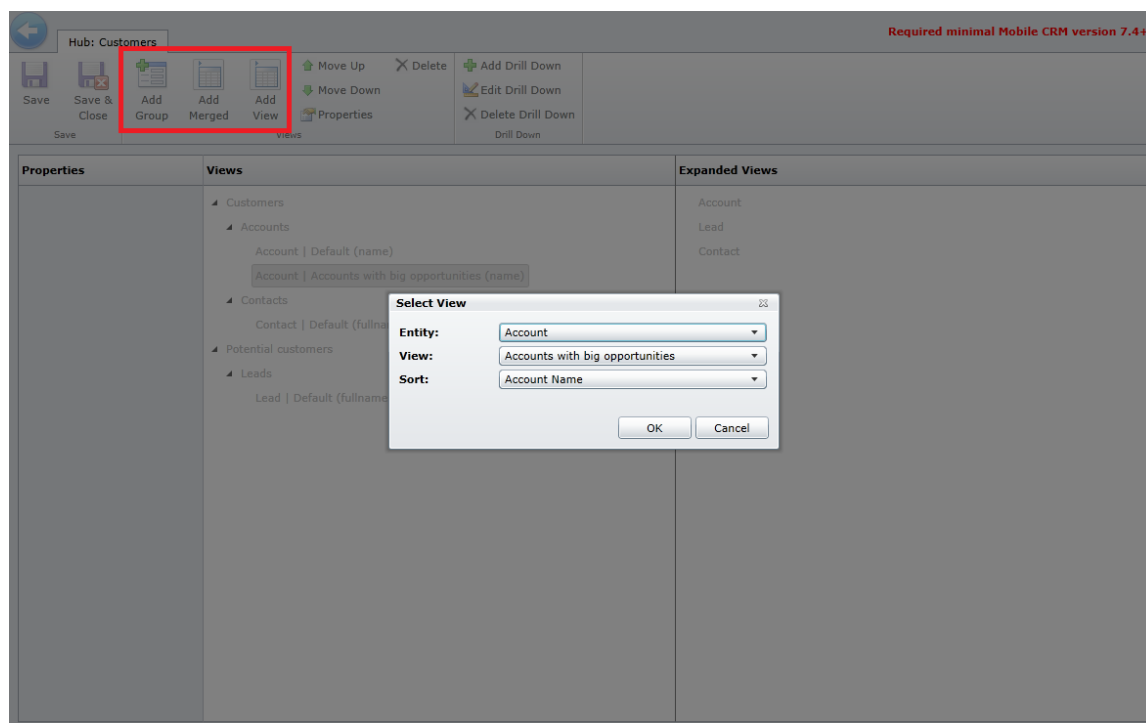


E.g. you can combine accounts and contacts into one hub. For Accounts, you can show associated activities, opportunities and contacts. So user can see the latest communication with the account, its opportunities and contacts directly, without the need to go to account's form and search for the needed information. On the other hand, for contacts, you can decide to only show the parent account and related activities.

When you create a Hub (or edit a default one), you need to specify the structure of the entities and its views, according to the data that will be displayed in the hub.

#### 4.6.1.1 How to create a hub

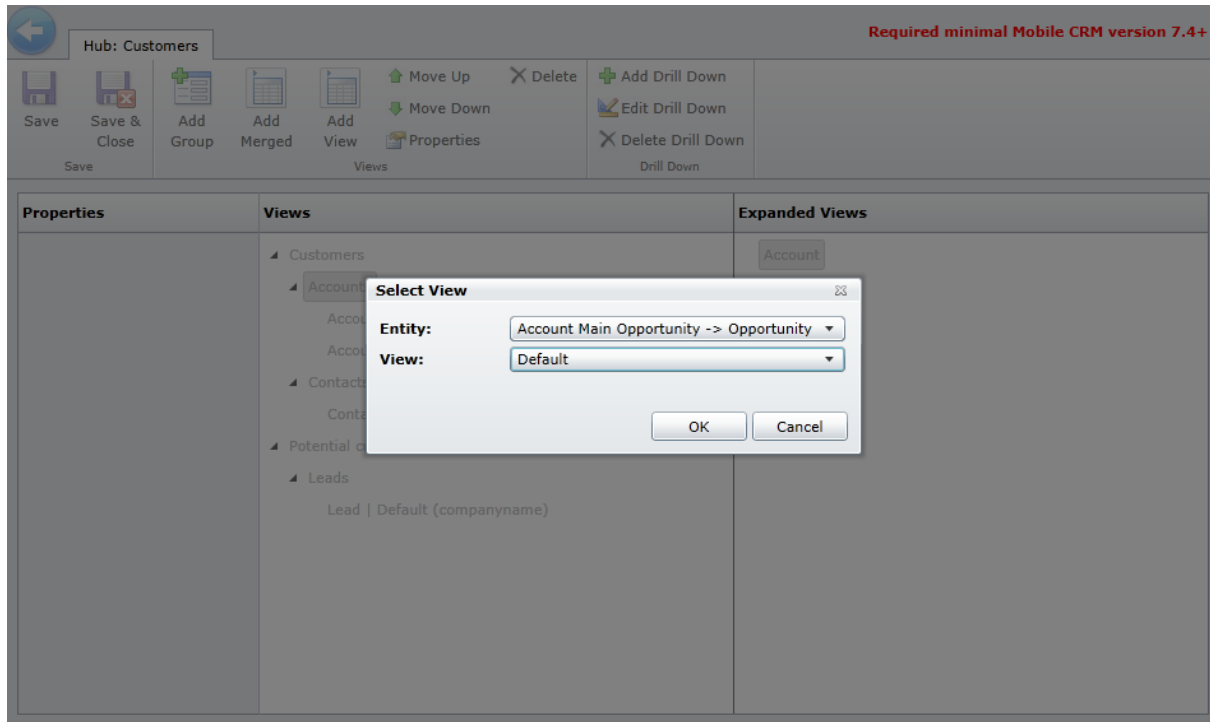
1. Add Group – You can have one or more groups in a Hub. The purpose of the group is to have entities of a similar type together. It allows user to filter Group sections under the in Hub's view easier.
2. Add Merged – Here you specify a section, which will combine views and display resulting records. Only records from one merged section can be displayed at once.
3. Add View – add the views to be used for the selected Merged section.



#### 4.6.1.2 Drill down

In Drill down, you specify the associated or parent views that will be displayed when user expands the record in the view (as in the example of Accounts and Contacts described above).

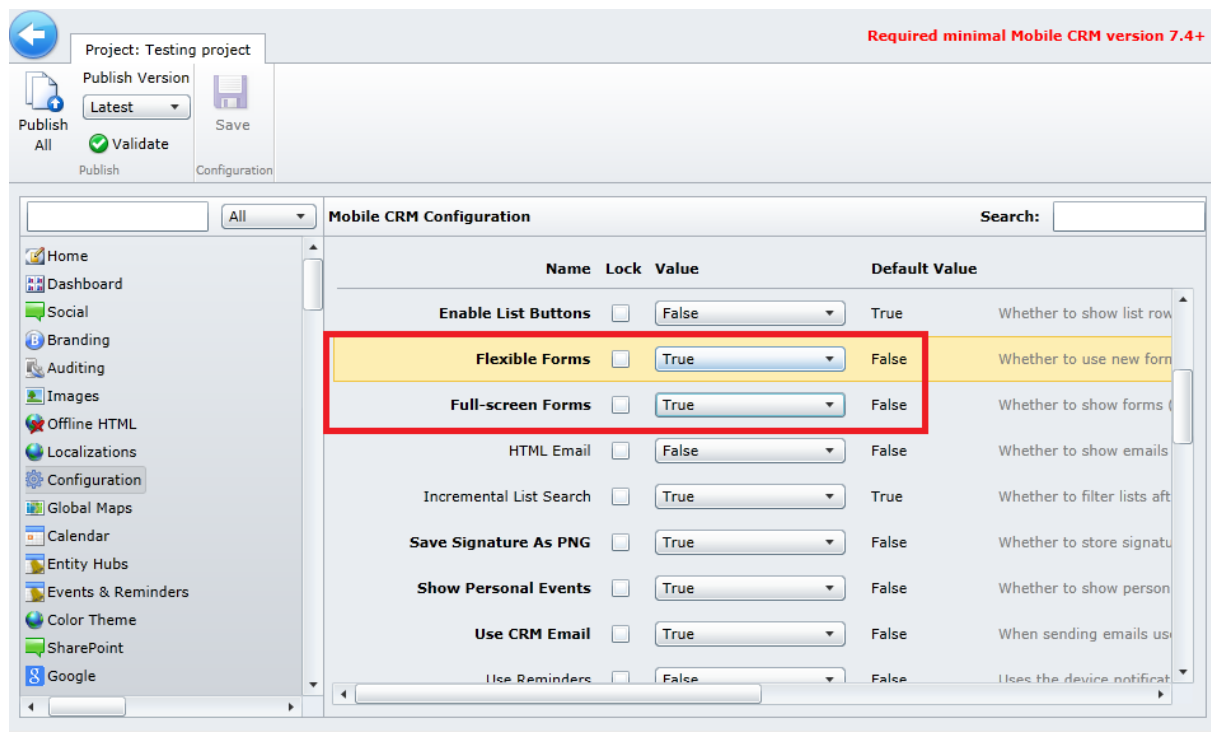
In this case we are adding list of related opportunities to an account. If you set a view that has a filter, this filter will be applied and only opportunities that fit the view filter will be shown (for example show only opportunities where estimated revenue is higher than \$10 000).



#### 4.6.2 Flexible forms

The flexible form is a replacement of tabs. Now you can put record's fields, associated views and other items into one screen, so the users get a perfect overview of any record at a glance.

1. In project's Configuration section, enable the use of Flexible forms (if it is not enabled, the old UI using tabs is applied). In this section, you can also set how the form will be displayed by default (whether it should be opened full screen or in one column). This is a tablet only option, the form is always displayed in one column on phones.



2. For each entity form, you can set its specific layout.

a. Flexible Form option

Project Default – Form is displayed in old or new UI, depending on Flexible Form option in project's Configuration

Enable – Enables the New UI Form

Disable – Form with tabs will be used

b. Layout (Applicable for tablet devices, when form is in full screen)

Single Panel – Form is displayed in one column, all items are below each other, like on phone devices

2 Panel Auto – Right or left panel covers more space (depending on the content – which panel has more items on it)

2 Panel Left – Left panel is larger

2 Panel Right – Right panel is larger

c. Full Screen

Project Default – Form follows the project's setting

Enable – Form is opened in full screen

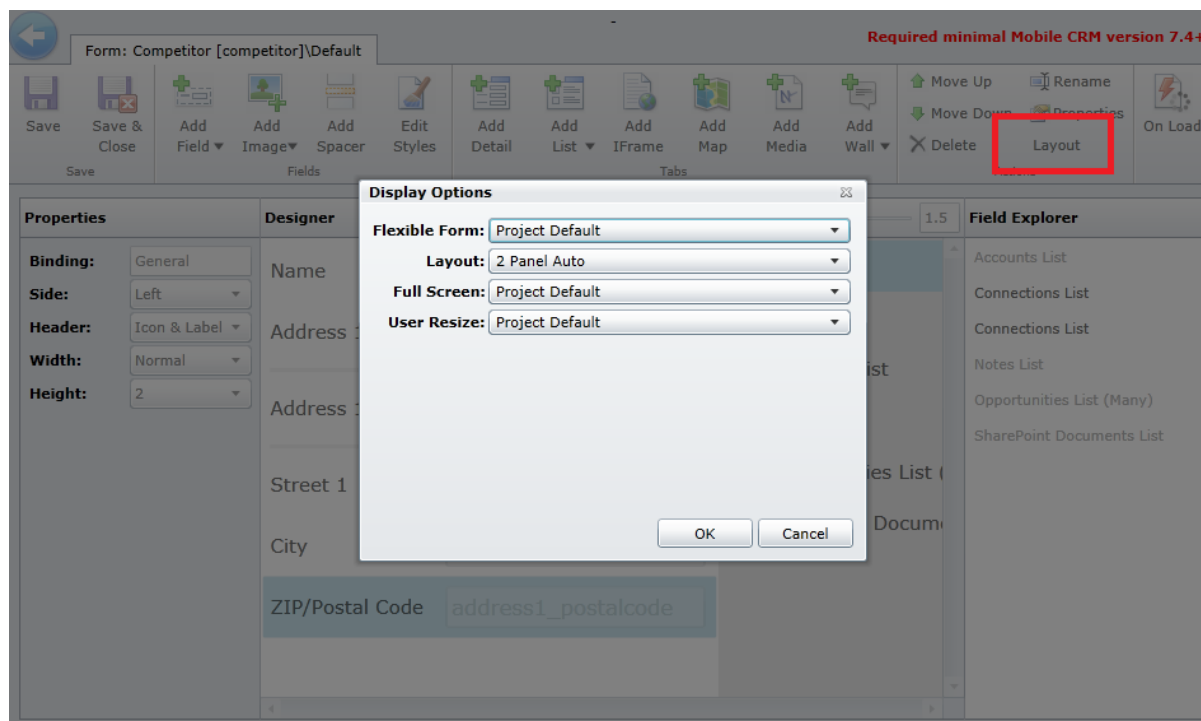
Disable – Form is opened in collapsed mode (like in old UI)

d. User Resize

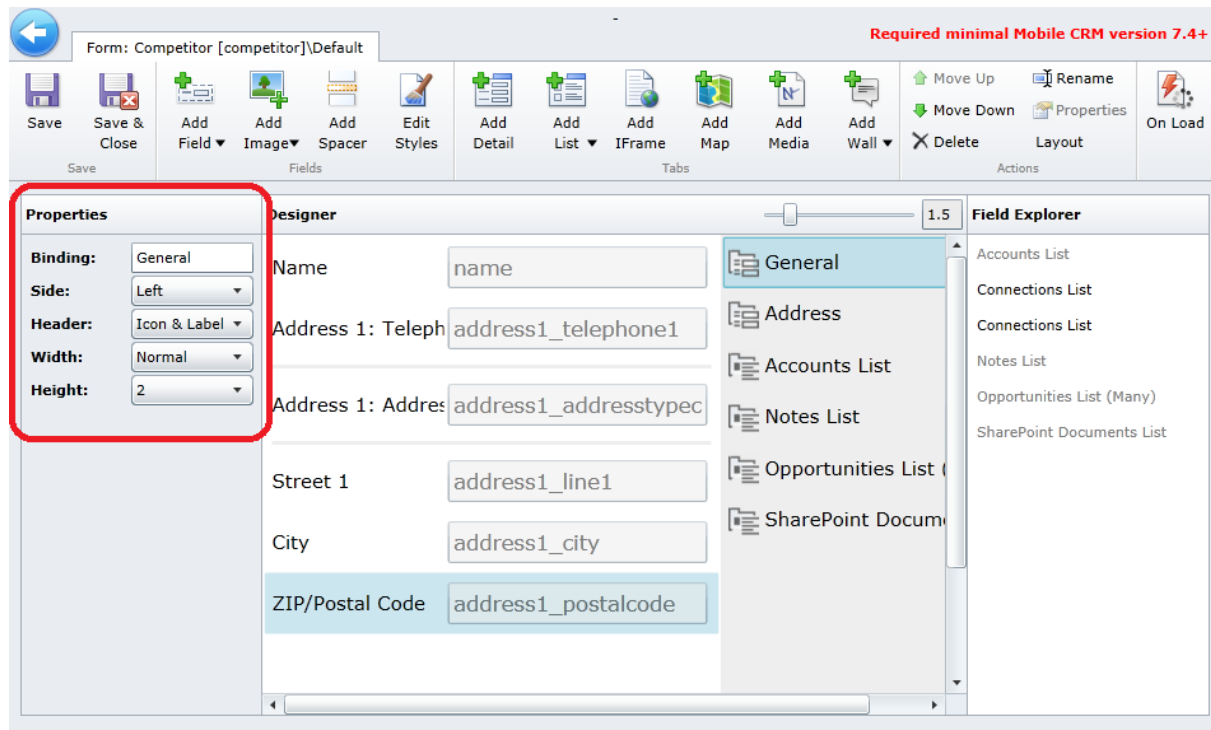
Project Default – Form follows project's setting

Enable – User can resize the form (switch to full screen or to collapsed mode)

Disable – User cannot resize the form



3. Each form's item can be further configured.
  - a. Side – Set whether the item should be displayed on the left or right side. By default the detail item (where you can add entity fields) is set to be on the left side and associated or unrelated list is on the right. But you can rearrange it as you wish.
  - b. Header – What to show on the item's header. Options are
    - Hidden – Item will not have a header
    - Icon & Label – Both, the icon and the label (name of the item), will be shown
    - Label – Only the item's name will be shown
  - c. Width – You can set whether to set the item's width for one (Small) or two (large) columns
  - d. Height – You can set the number of lines per each item. Only this number of records will be seen at first, the rest will be reachable by scrolling within the list.



4. It is also possible to set the form's associated lists properties. For more information please check the Form section – associated list setup.

## 4.7 Dashboard

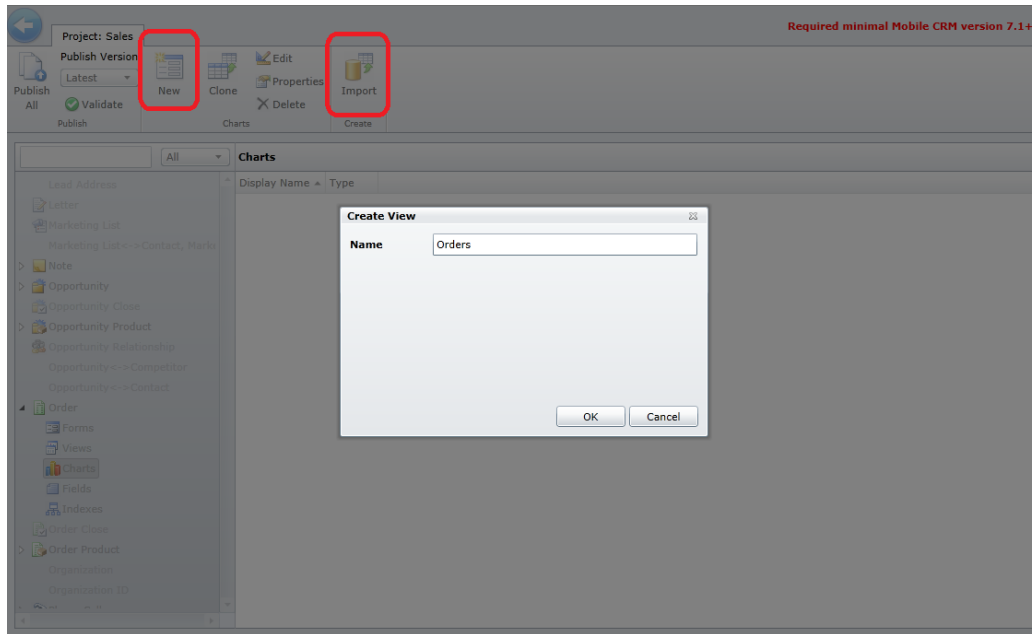
Dashboard views enable you to access the most needed information from various entities in one place. You can add Charts, Views and Iframes there. You can also create more dashboards and place them on the Home separately.

In order to add a Chart to the Dashboard view, first you need to create/import the specific Chart for the desired entity, that will be used on the Dashboard View.

### 4.7.1 Charts

Charts can be used in two cases. You can add a chart to a Dashboard, where you can add the desired chart(s), or you can flip the list view into a chart view. In case of the Chart view, if you have more charts, you can switch between them just like in case of multiple views.

You can create more Charts for one entity, or you can import a chart, that already exists on the CRM.

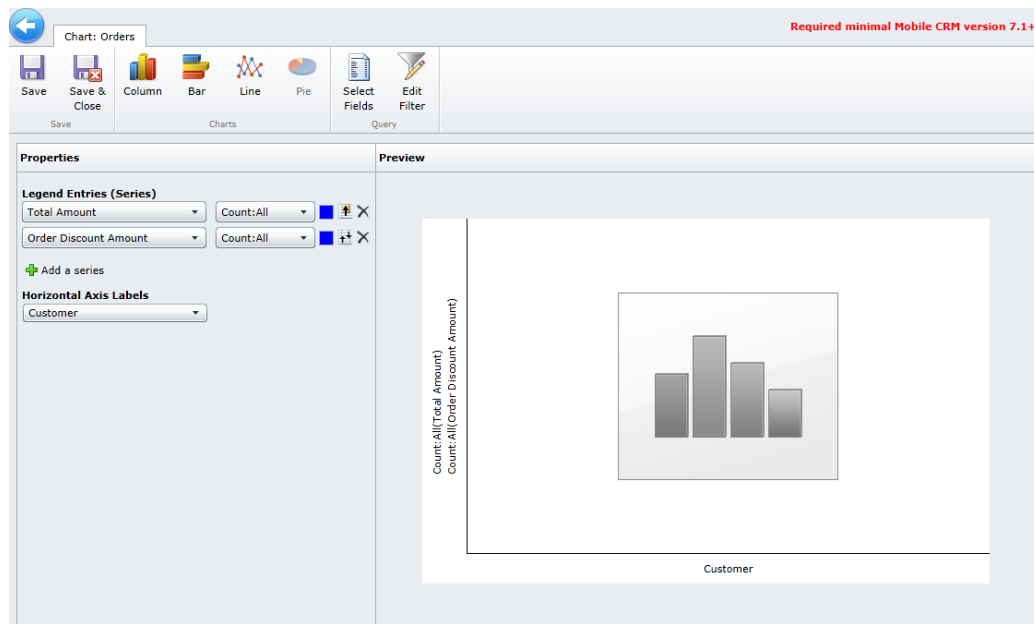


Select the desired item from the Legend Entries field (in our case the Total Amount) and the desired aggregation function (Sum). The available functions will differ according to the item's type. The next item is the color set for the selected legend entry, and you can also set the limit for records shown in the chart.

Mobile CRM supports multi series chart, so you can add a new legend entry clicking on the Add a series option.

Then select the Horizontal Axis Label (e.g. Customer) and choose the type of the Chart. You can choose from Bar, Column, Line and Pie chart (Pie chart is not available when you have multi series chart) types. Save the changes when the chart is ready. You can also select additional fields and apply filters to adjust the displayed data.

We will do similar steps to make a Case Chart. I will create a new Chart in case entity, and use the Case item as Legend Entry, Count: All as function, Customer as Horizontal Axis label and Bar chart type. In this case we can also set a Limit to Top and enter 10 into the field. It means that the maximum number of cases shown in the Chart will be 10. I save the Chart and will go back to the Project screen.



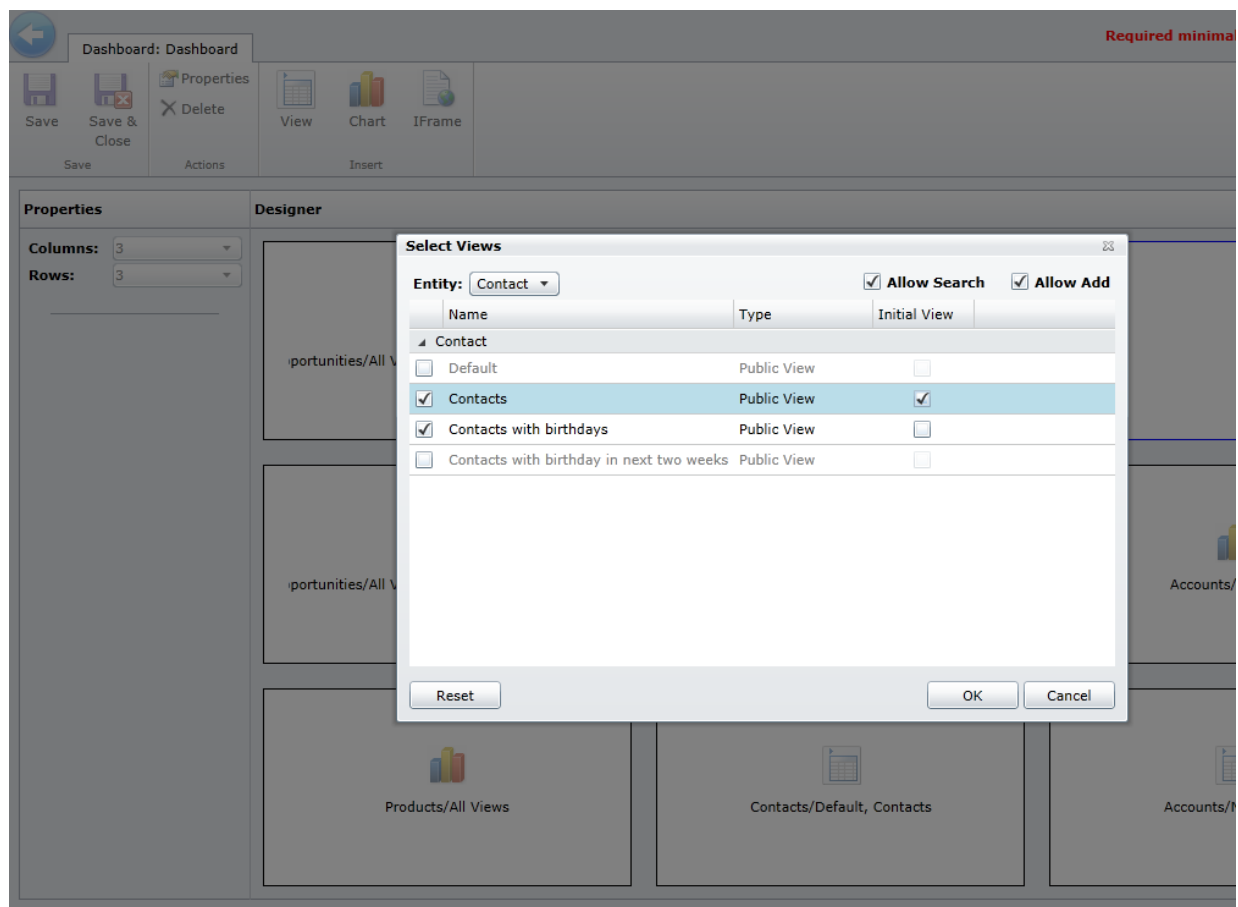
**Tip:** An example of multi series chart setup can be found in our [Blog Post](#)

#### 4.7.2 Creating Dashboard

As default there is already a dashboard called DashboardForm. When you open it, you can remove the pre created items by selecting it and pressing the Delete button.

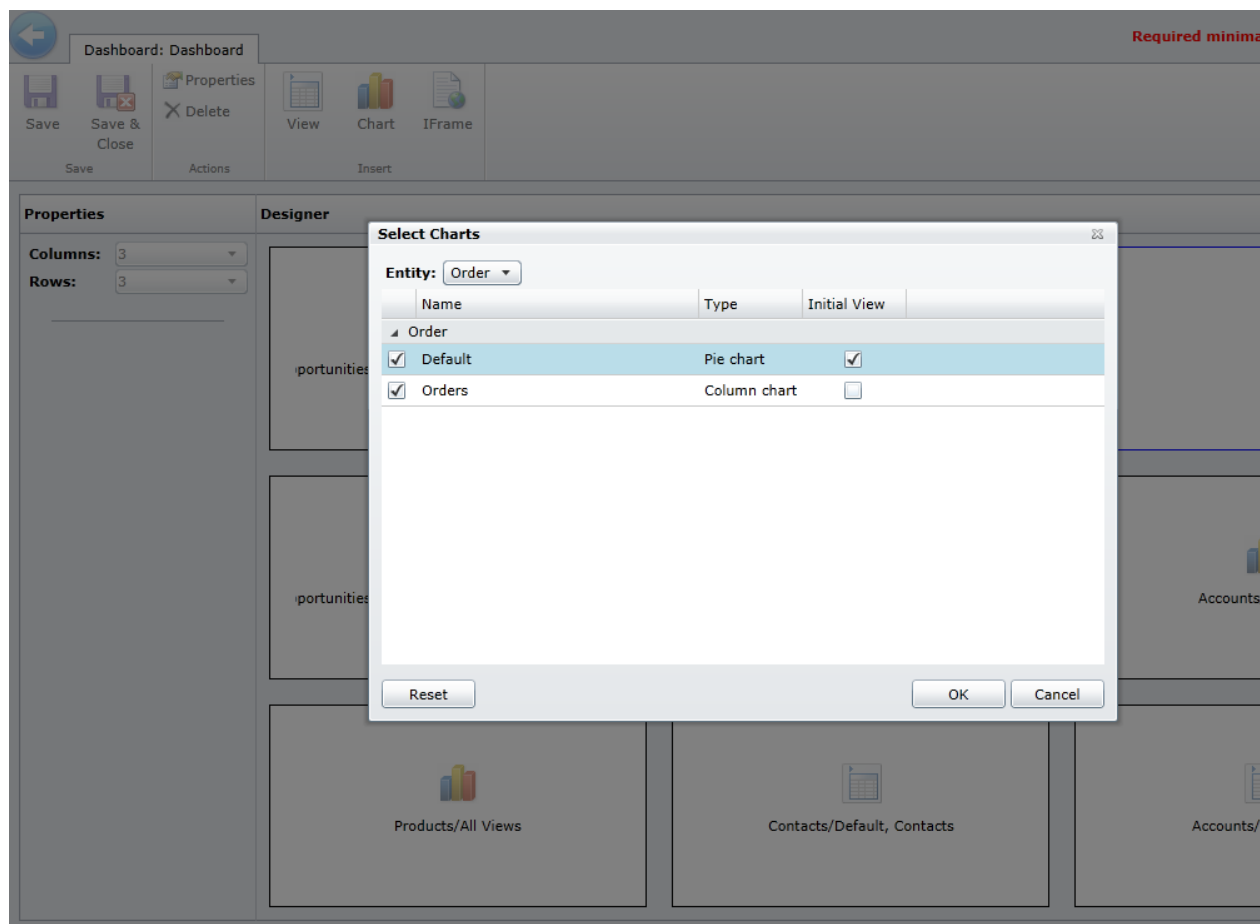
You can add View, Chart and Iframe items. Select an empty slot and press the appropriate button from the toolbar.

In case of Views, you need to specify the entity and view(s) that will be available for user. If you select more than one view, user can switch between them. View, set as initial (not required) will be selected, until user changes it. It will be selected again after restart of Mobile CRM app.



You can also define whether you want to enable Search on the Dashboard view, and whether to enable users to add records to the entity in Dashboard view.

In case of Charts, you need to specify the entity and chart. You can leave it on automatic and the first chart in alphabetical order is used, or you can specify the chart.



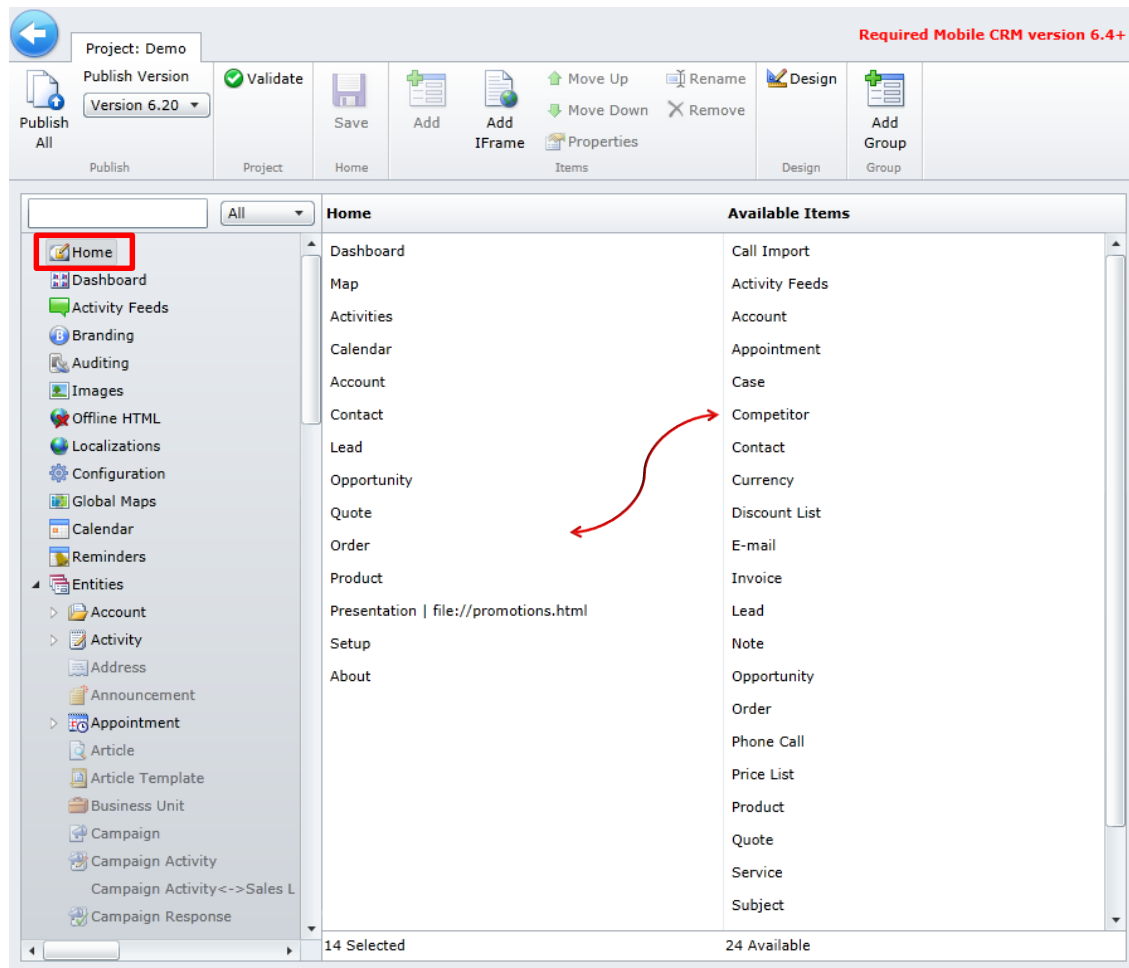
In case of Iframes, you just need to enter the URL.

The number of items placed on the Dashboard can be set by adjusting the number of Columns and Rows. You can also join two and more windows to one by dragging the right or bottom boarder of the window to the right or down.

*Tip:* Example on how to adjust the Dashboard can be found in our [Blog Post](#)

## 4.8 Managing entities available on the Mobile CRM application's Home screen

To create a new Competitor entity, accessible from the Home screen, we need to add it to the Home list. Click **Home**, that appears in the Project list on the left. Then you only have to drag and drop (or double-click) the Competitor field from the right column (Available Items) to the left column (Home).



When all changes are done, we need to publish the customization, so the device will download and use it at the next synchronization. To do so, click Publish all.

Now run the app on your mobile device and tap the Sync button. Make sure you log in as a user with Salesperson role (the role we created the customization for). A newly added Competitor entity is displayed on the home screen after the synchronization.

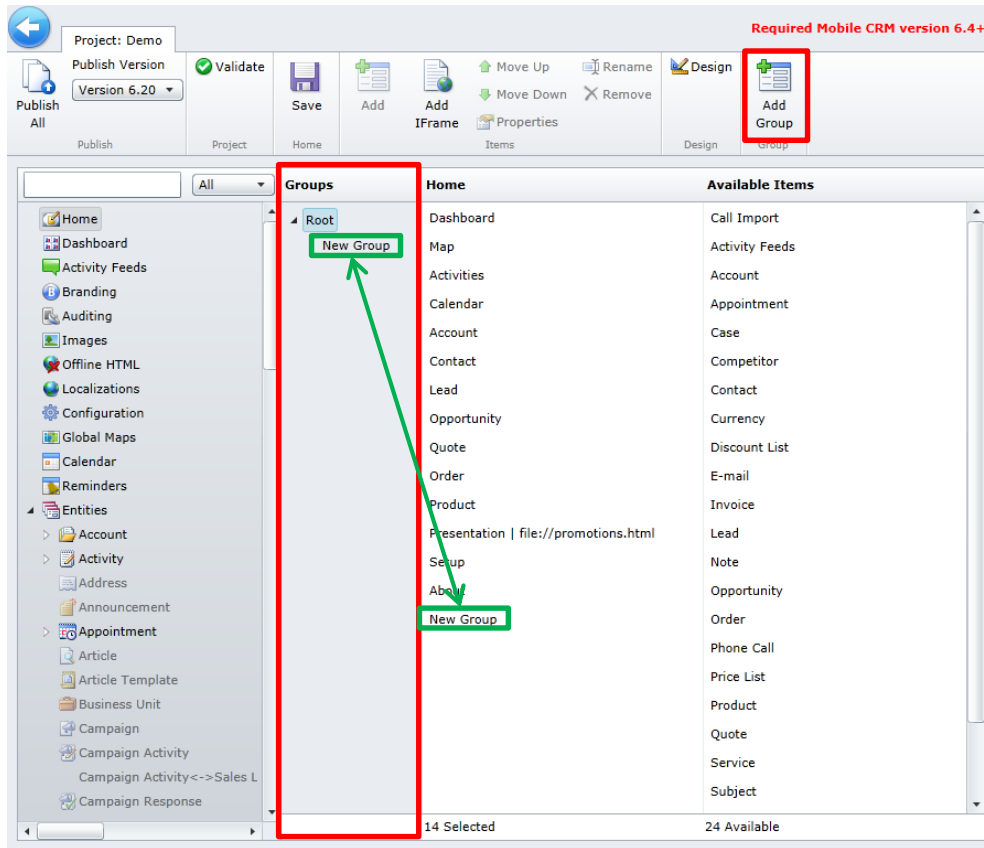
You can add or customize any other entity or custom entity the same way as described in this guide.

#### 4.8.1 Home Groups

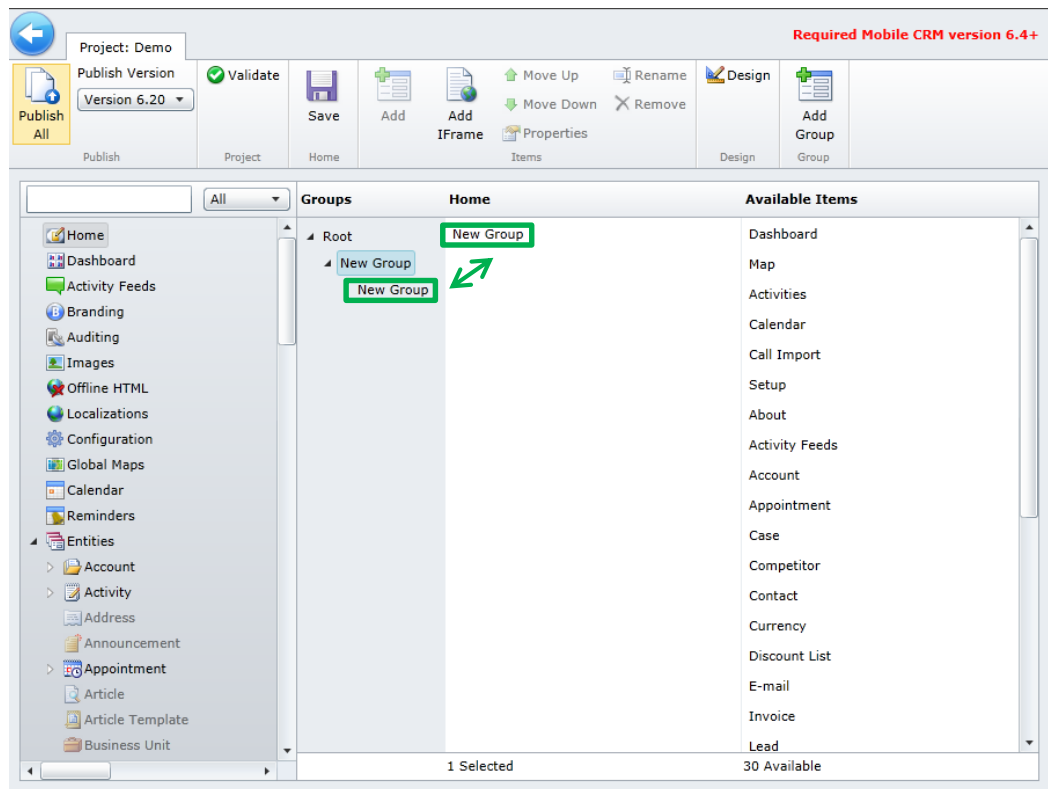
With Woodford 7 version you can now group home items (Entities) under custom groups – similar to the MS Dynamics CMR environment, where you can group entities under sections like Sales, Marketing & etc. There you can place different Dashboards, or Calendars for instance.

To add a new group just click on the **Add Group** button located on top right – this will open a new section on the left of the home column and it will be called **Groups**.

**Root** as the name suggests is the main level of the home items and groups (visible at the start of application). To create a sub-level for the groups is done by clicking on a group in the **Groups** section and then clicking again on the **Add Group** button.



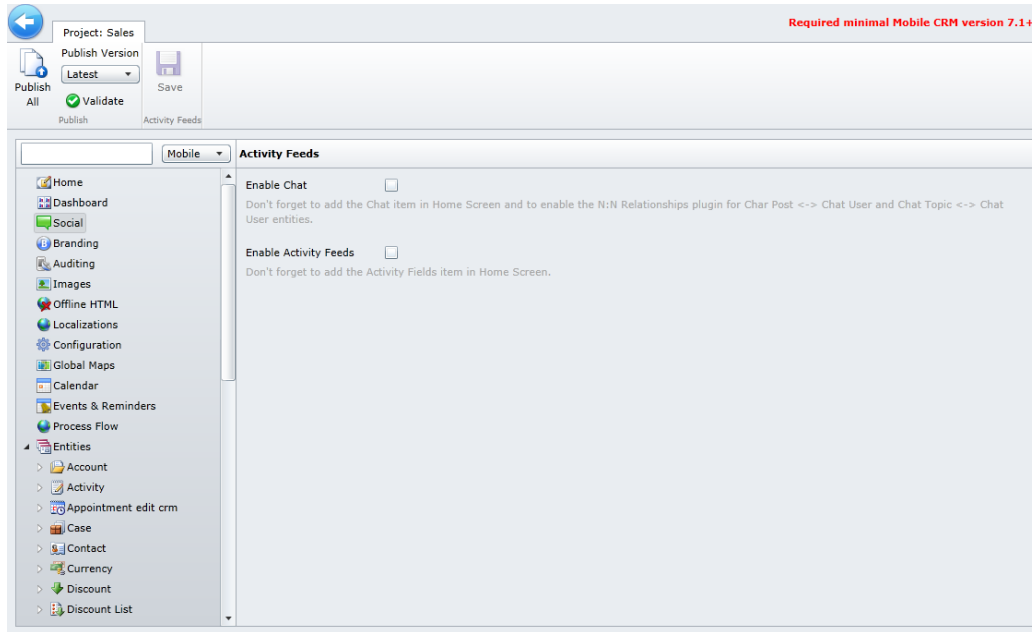
*Note: Green color highlights position of the same Group in **Groups** section and then in **Home** section.*



To **Rename** or **Remove** the Group you have to select the **Group** in the **Home** section (not in the **Groups** section) and then you can click the respective **Rename** and **Remove** buttons in the top toolbar.

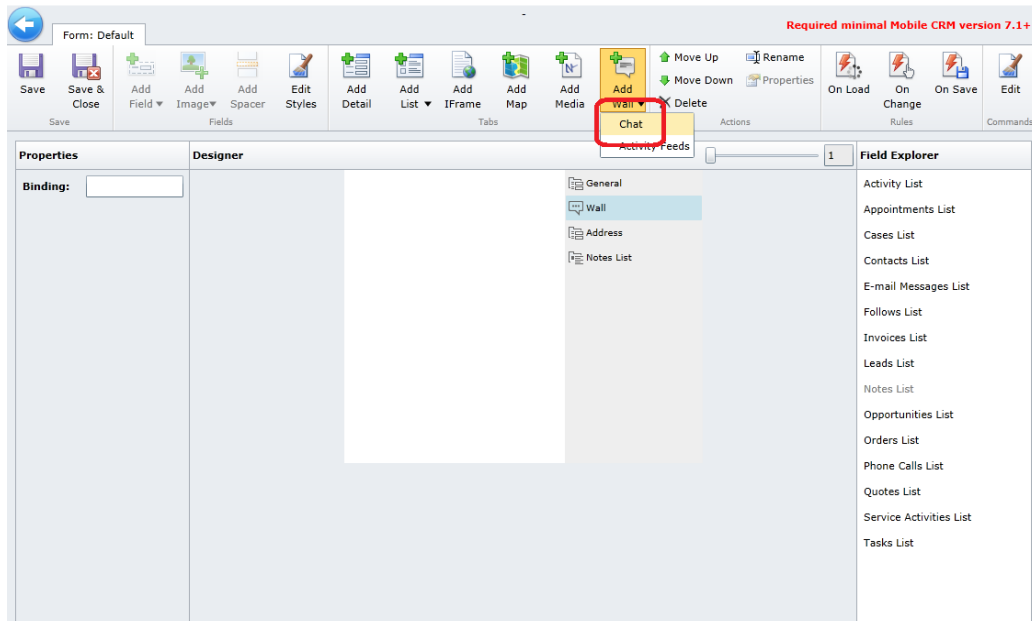
Groups can also have their own **images** just like any other entity – when adding image, use the same name as is the name of the Group.

## 4.9 Social



### 4.9.1 Chat

As first, you need to go to enable Chat and save the changes. To be able to access chat of all record you are following, place Chat on the Home. If you want to be able to use Chat to comment on records, you need to place the Chat Wall on the entity form.



**Note:** Chat works only when Internet connection is available. Chat uses Push Notifications to notify about new message, when Mobile CRM application is not running.

## 4.9.2 Activity Feeds

### 4.9.2.1 Prerequisites

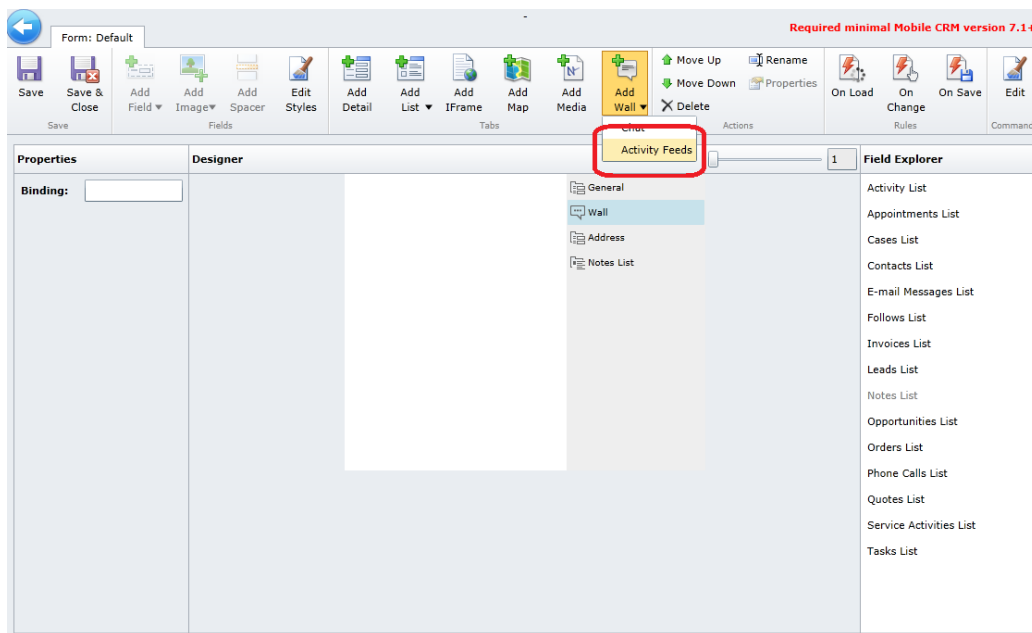
In order to be able to enable the Activity Feeds on the Mobile CRM, you need to make sure you have a working Activity Feeds Solution on your Dynamics CRM server. If not, you can follow this [“How to install Microsoft Dynamics CRM Activity Feeds”](#) guide on how to add and configure Activity Feeds on your Dynamics CRM server.

### 4.9.2.2 Setting up Activity Feeds using Woodford

As first, you need to enable Activity Feeds and save the changes.

Then, if you want to access all the news, you need to place the Activity Feeds to the Home

You can also add the Wall to the entity's Edit form so you can see all the News assigned to the currently opened record. To do so, open the Edit or Contact Information Form of e.g. the Account entity, and click on the Add Wall icon on the toolbar (in case of the Contact Information Form, click on Form prior to the last step). Save the changes and don't forget to publish the changes.



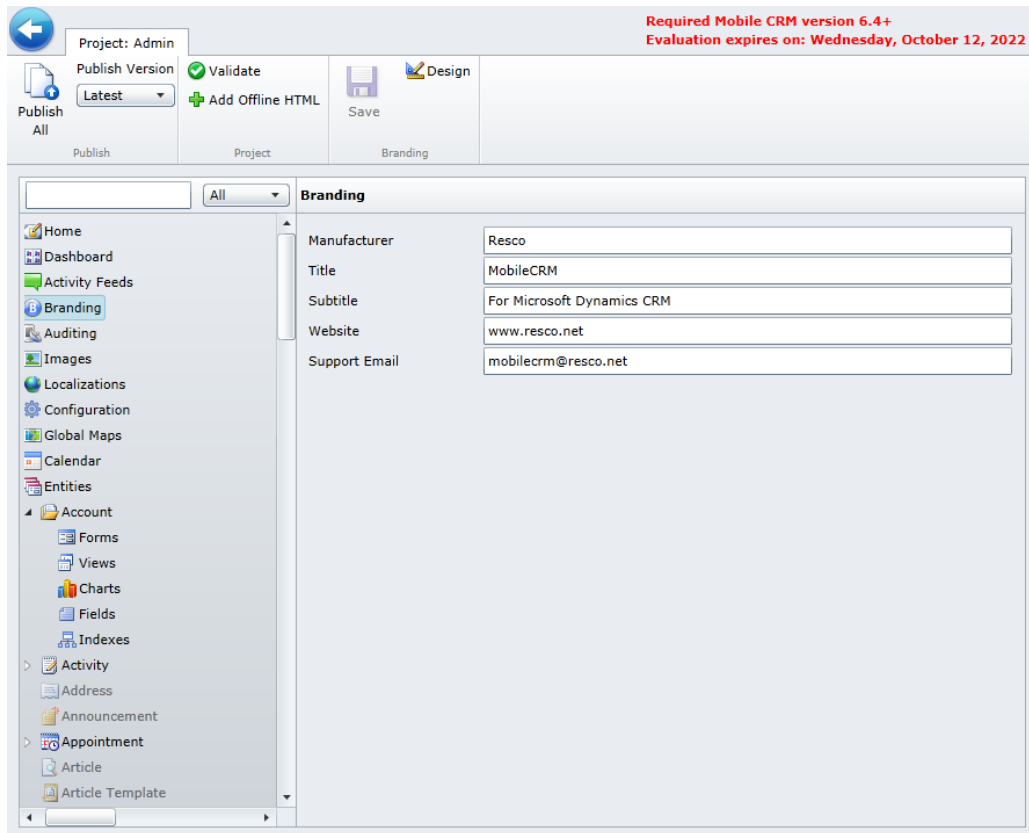
**Note:** Activity Feeds only work in Online Mode.

## 4.10 Branding

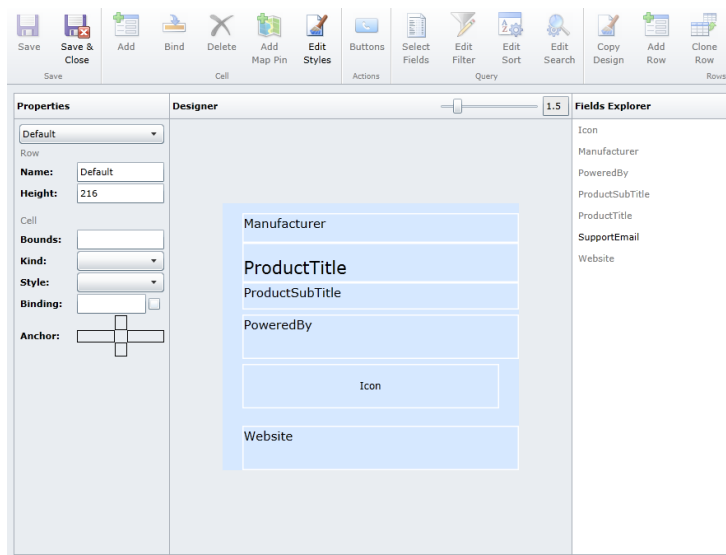
In the Branding section of the project, you can set custom information about the application. You can change the name of the **Manufacturer**, the **Title** of the application, **Subtitle**, **Website** and **Support Email**. You can enter your company's support email address if you want to take care of the first level support on your own. In this case the logs from the application will be sent to this email.

When you change the title, this title will be used as application name, application's title on the main screen.

The rest of information is shown in the About section.

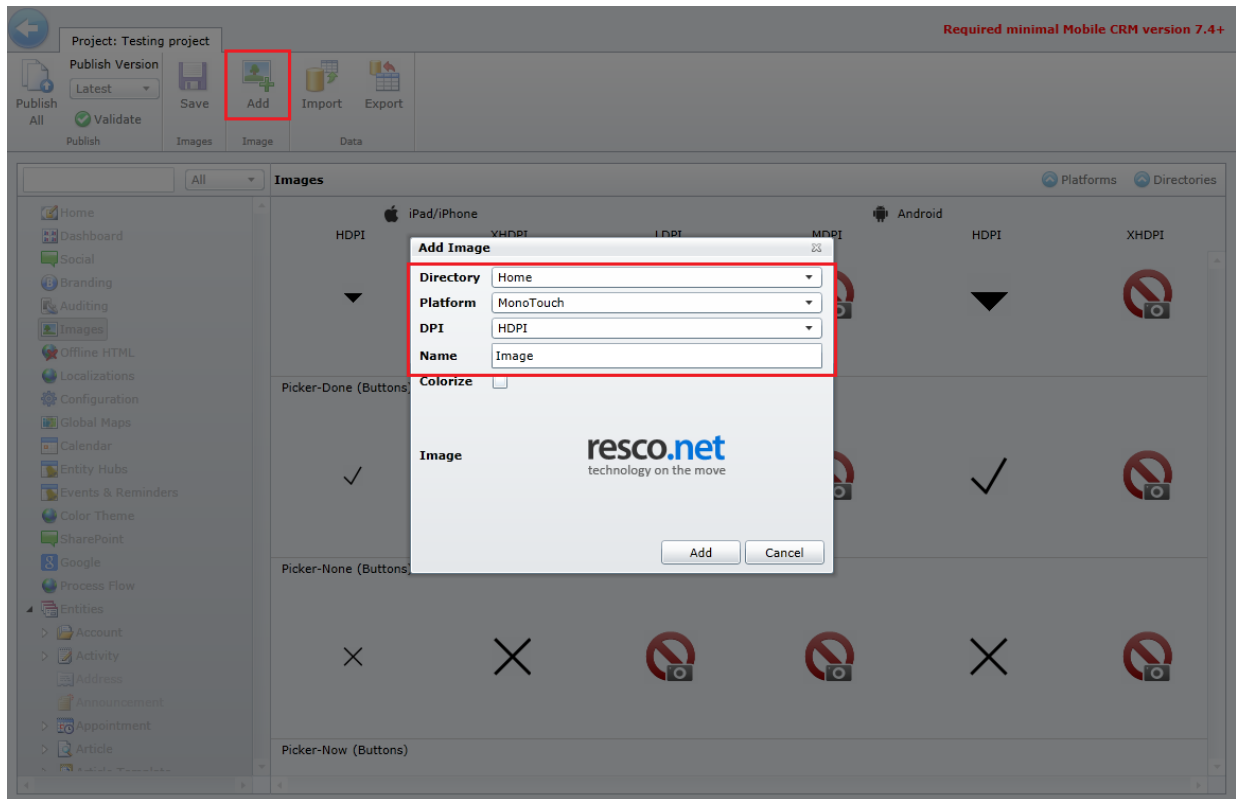


You can also **Design** the About section in the same way as Views are designed, so you can remove/change the information displayed there.

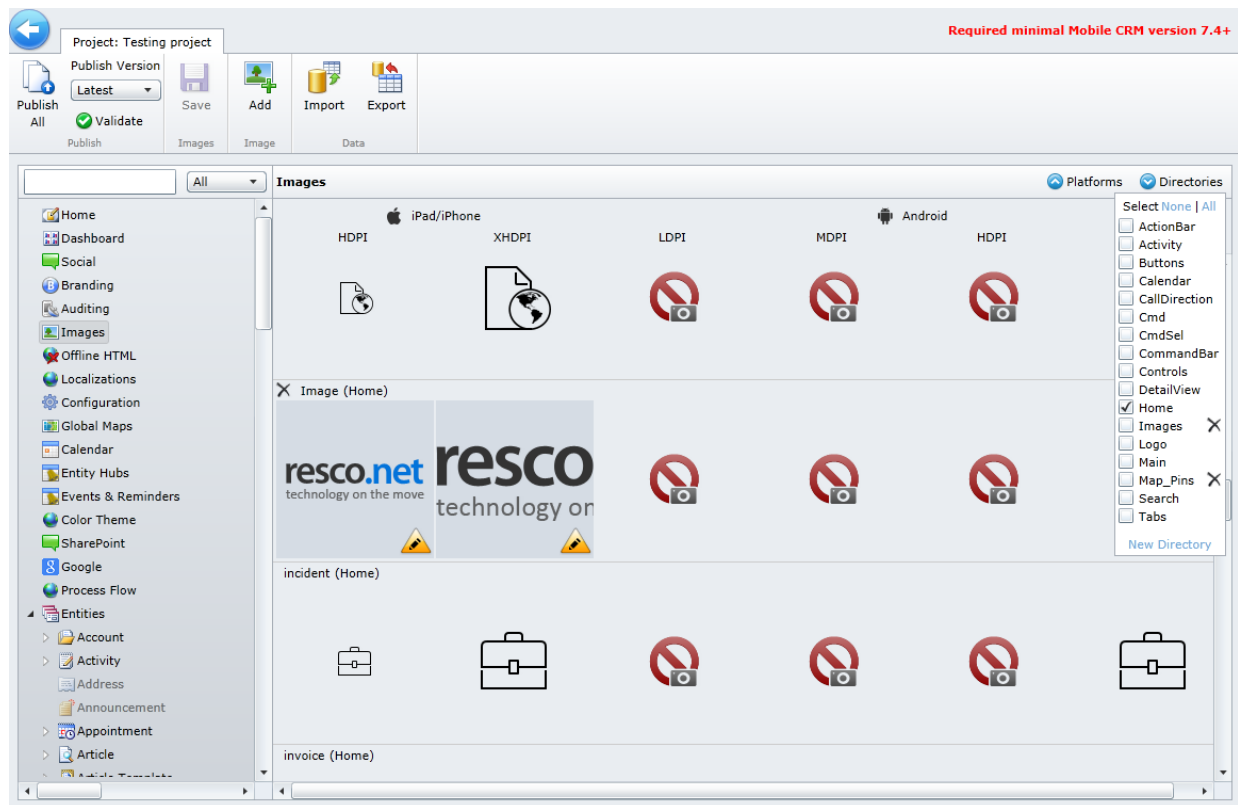


It is also possible to add a custom icon, e.g. company logo on the home screen (iOS only so far). To do so, go to Images section in the project, and add a new item.

As Directory set Home, as platform MonoTouch (iOS), set the DPI (XHDPi is for retina displays) and the Name must be exactly “Image”, without quotes.



Then, you can add the other DPI by scrolling down to the Image (Home) item.

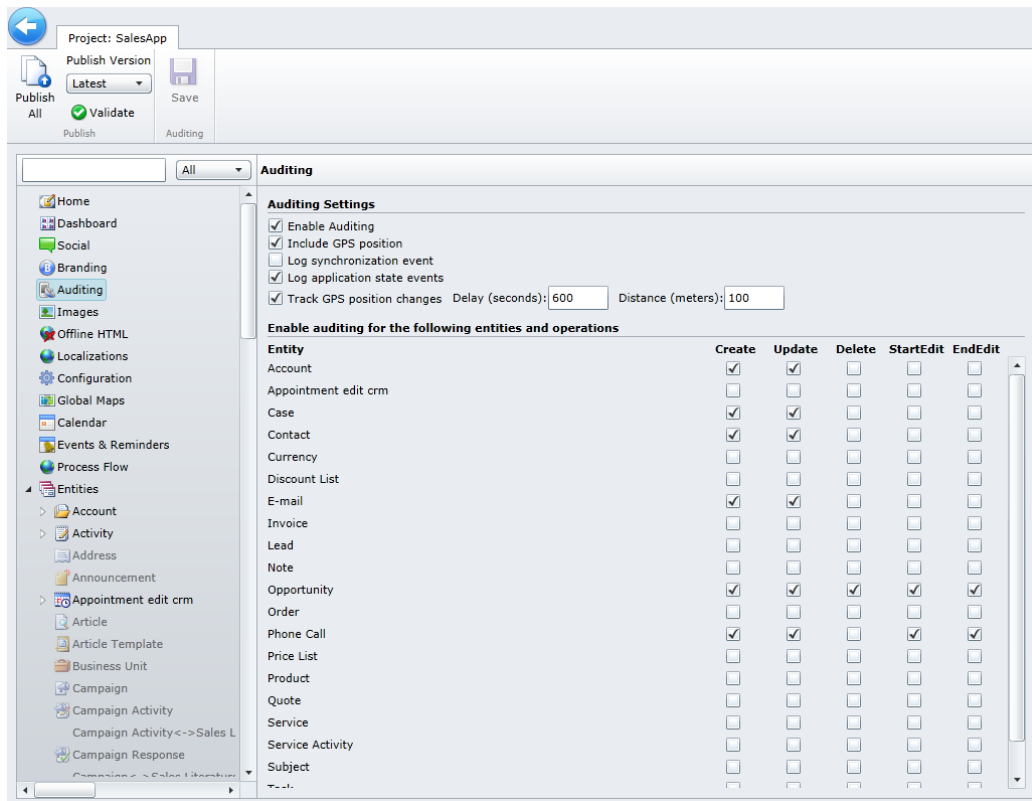


## 4.11 Auditing

In the Auditing section of the project you can set what kind of action on selected entities will be recorded using the Mobile CRM application and sent to the CRM server when the application will be synchronized. You can track the time when the action was performed and also the GPS position (the device must contain the GPS chip). It is also possible to record the time and place where the synchronization was performed.

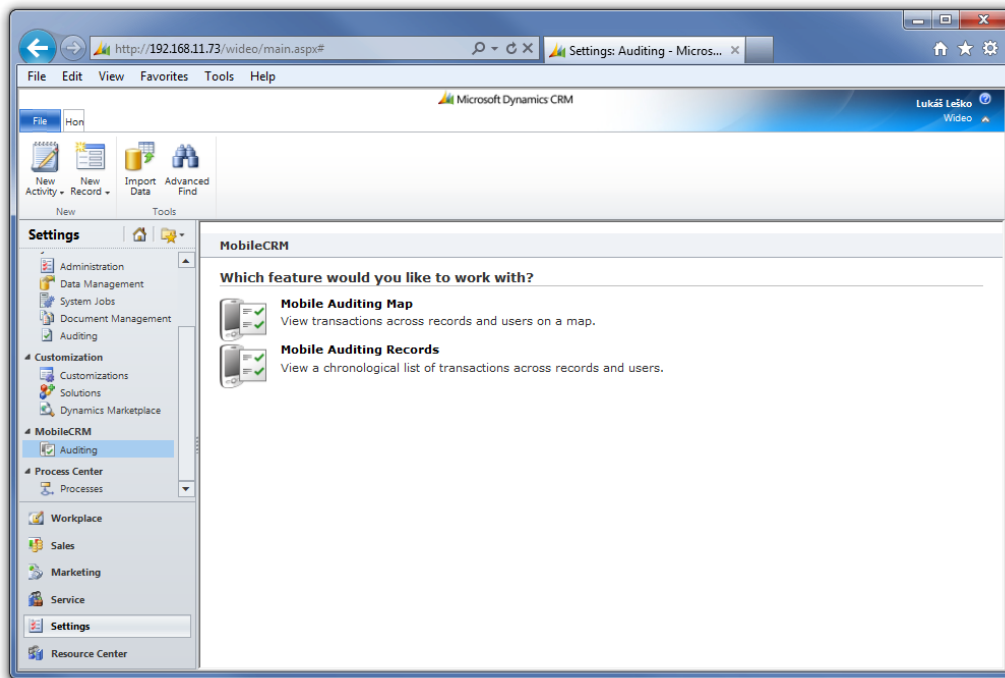
You can also track application's state events, and that is whether the application is running, is terminated, or paused (put to background) or resumed (put back to foreground).

If you want to audit the movement, you can use the Track GPS position changes, where you can set the Delay and Distance of the GPS position. If the device moves the defined distance after the set time interval expires, the position is recorded.

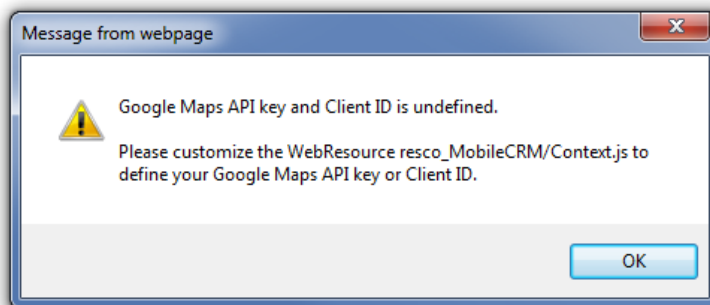


#### 4.11.1 Auditing on the Server Side

On the server side go to Settings -> Auditing under MobileCRM section. Here you have two possibilities. To check the Mobile Auditing Records or to view them on Map using the Mobile Auditing Map.



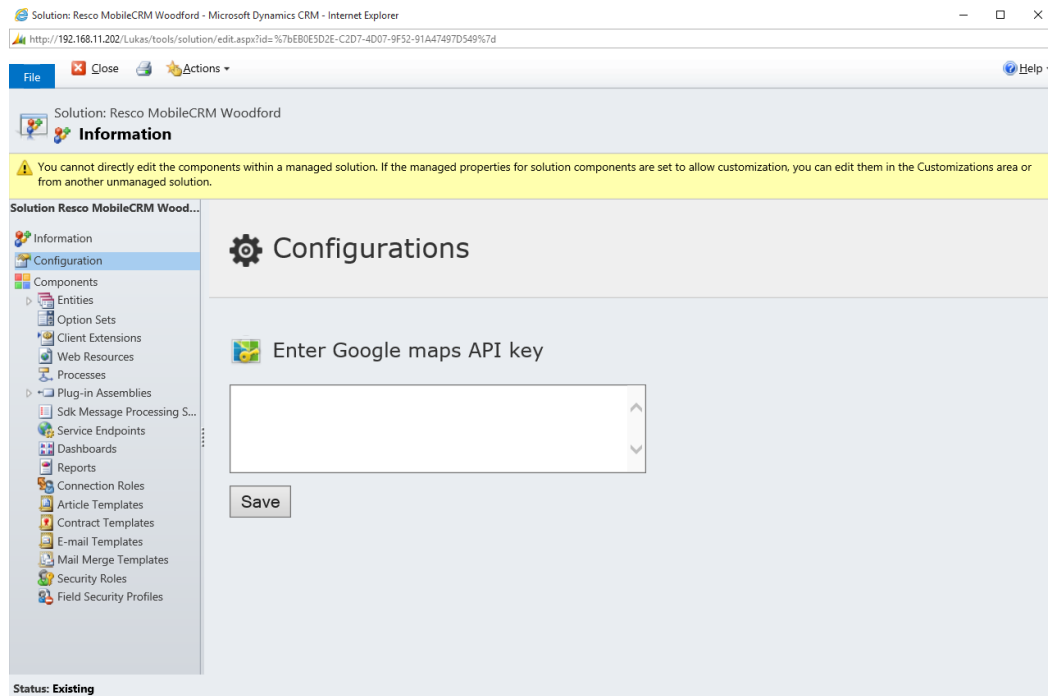
If you will receive the error message bellow after trying to open the Mobile Auditing Map, you need to enter the Google Maps API key to your CRM server.



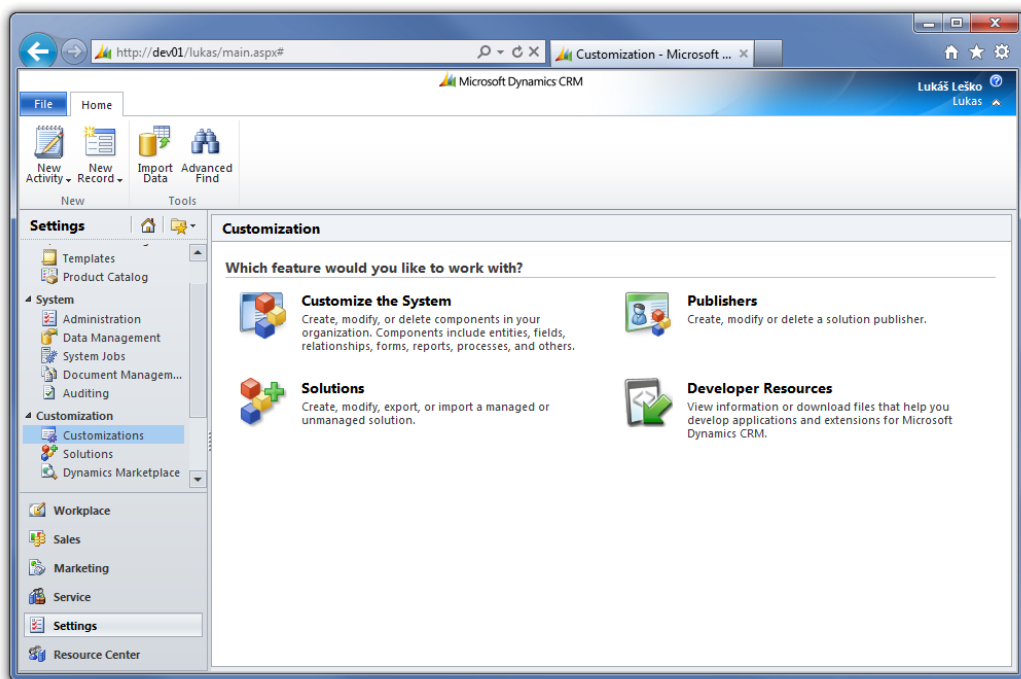
To enter this key, please do the following.

#### 4.11.2 Entering Google Maps API key

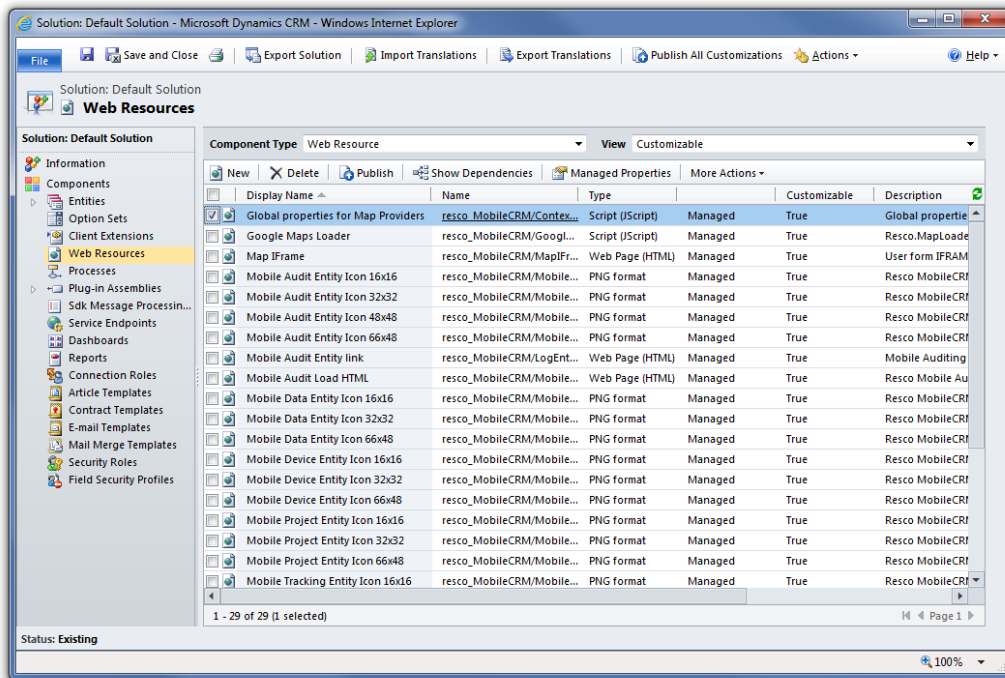
To be able to use the Mobile Auditing Map, you need to have the Google Api Key v3. To enter it, go to Solutions section and double tap on the Woodford solution. It will open the solution and as the first screen, you will have the place where to put the Google API key.



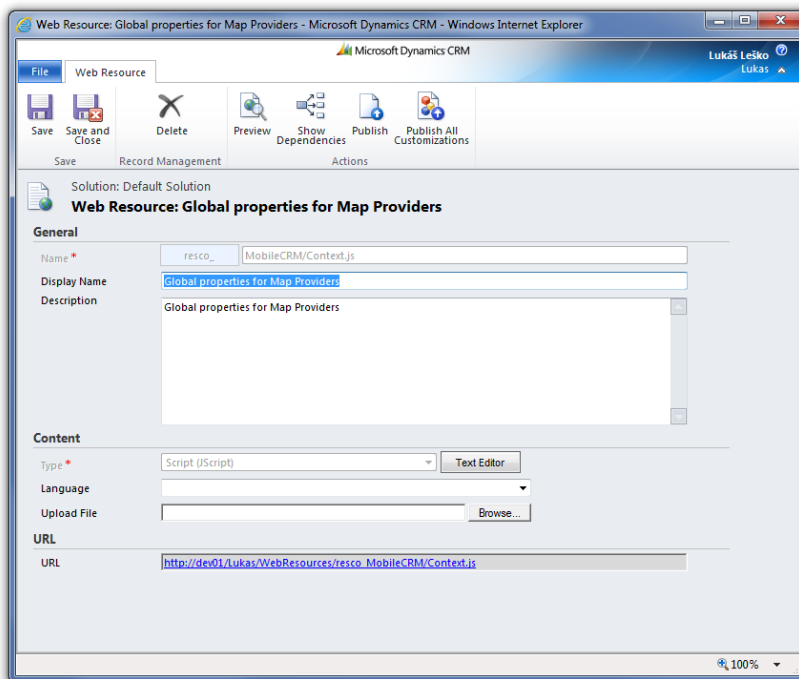
Different, more complicated way to do the same is this. While on the Dynamics Server, go to Settings, select the Customizations under Customization section and click on Customize the System.



Then select Web Resources and open the Global properties for Map Providers.



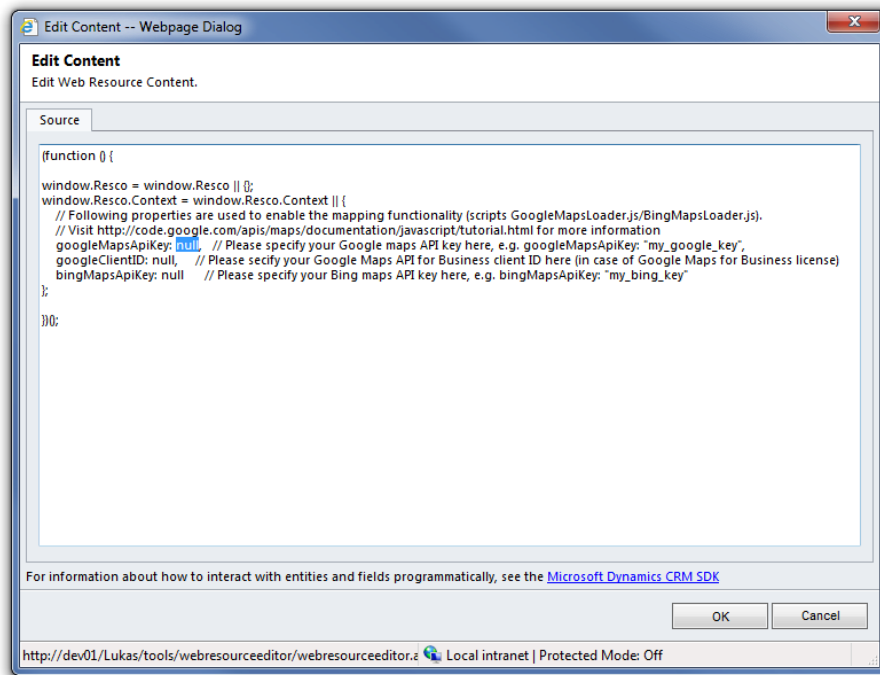
On the Web Resources: Global properties for Map Providers click on the Text Editor to add the Google API key to the script file.



In the last step please enter the Google API key to the selected area, specifying the key into **googleMapsApiKey** field and leave **googleClientID** null:

googleMapsApiKey: "EnterYourGoogleApiKeyHere",

googleClientID:null,



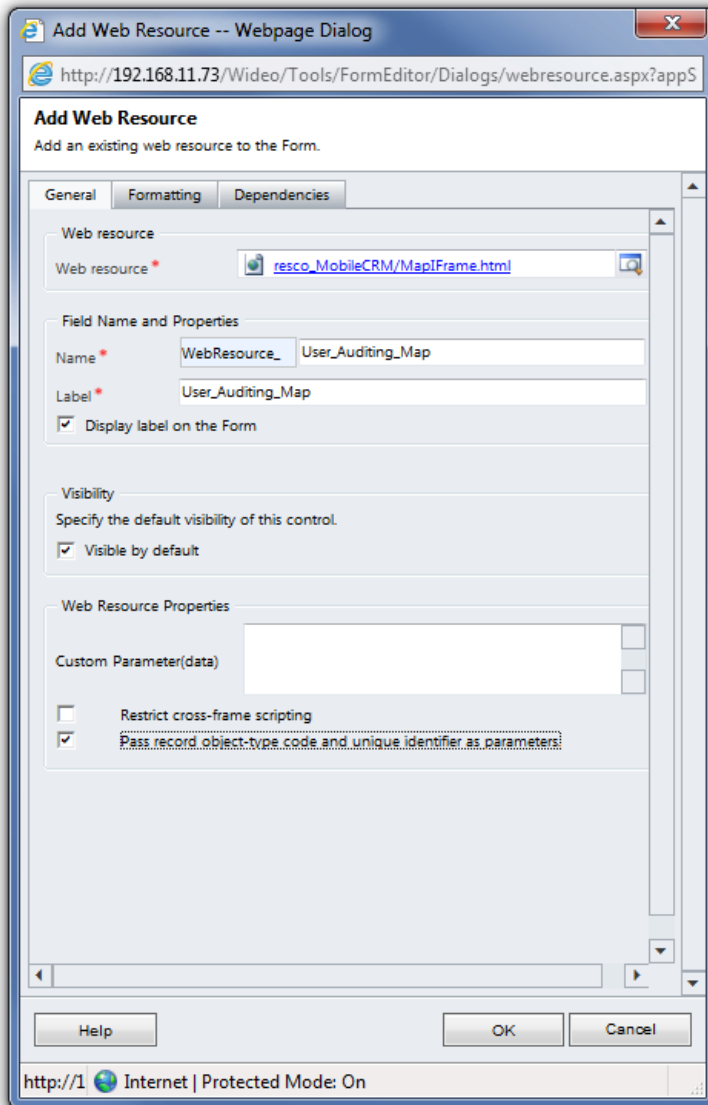
If you remove the “null” from the code – your code will not be valid Javascript.

#### 4.11.3 Adding Mobile Audit records on the server form

You can also add the Mobile Auditing tab on the CRM server form. Go to the Settings -> Customizations -> Customize the system on the CRM server, and select the Form on e.g. User entity as it is the most relevant entity for the Auditing functionality. Then click on Import and add or select the tab where you want to add the list of user actions, and click on Sub-Grid. Fill in the unique name and from the list of primary data source entities select the Mobile Audit (Created by or Modified by). Then you can also set the View selector to show All or selected Views (there are some predefined views for the Mobile Audit entity like Today, Yesterday etc.).

#### 4.11.4 Adding Mobile Audit map on the server form

If you are using the Google Maps API key, you can also add the user activity visualization map. Go to the Settings -> Customizations -> Customize the system on the CRM server, and select the Form on e.g. User entity as it is the most relevant entity for the Auditing functionality. Then click on Import and add or select the tab where you want to add the list of user actions, and click on Web Resource. There select `resco_MobileCRM/MapIframe.html` Web resource. Then set the name and make sure to check the „Pass record object-type code and unique identifier as parameters“ option, as it will show only the records that the user we are looking at made.



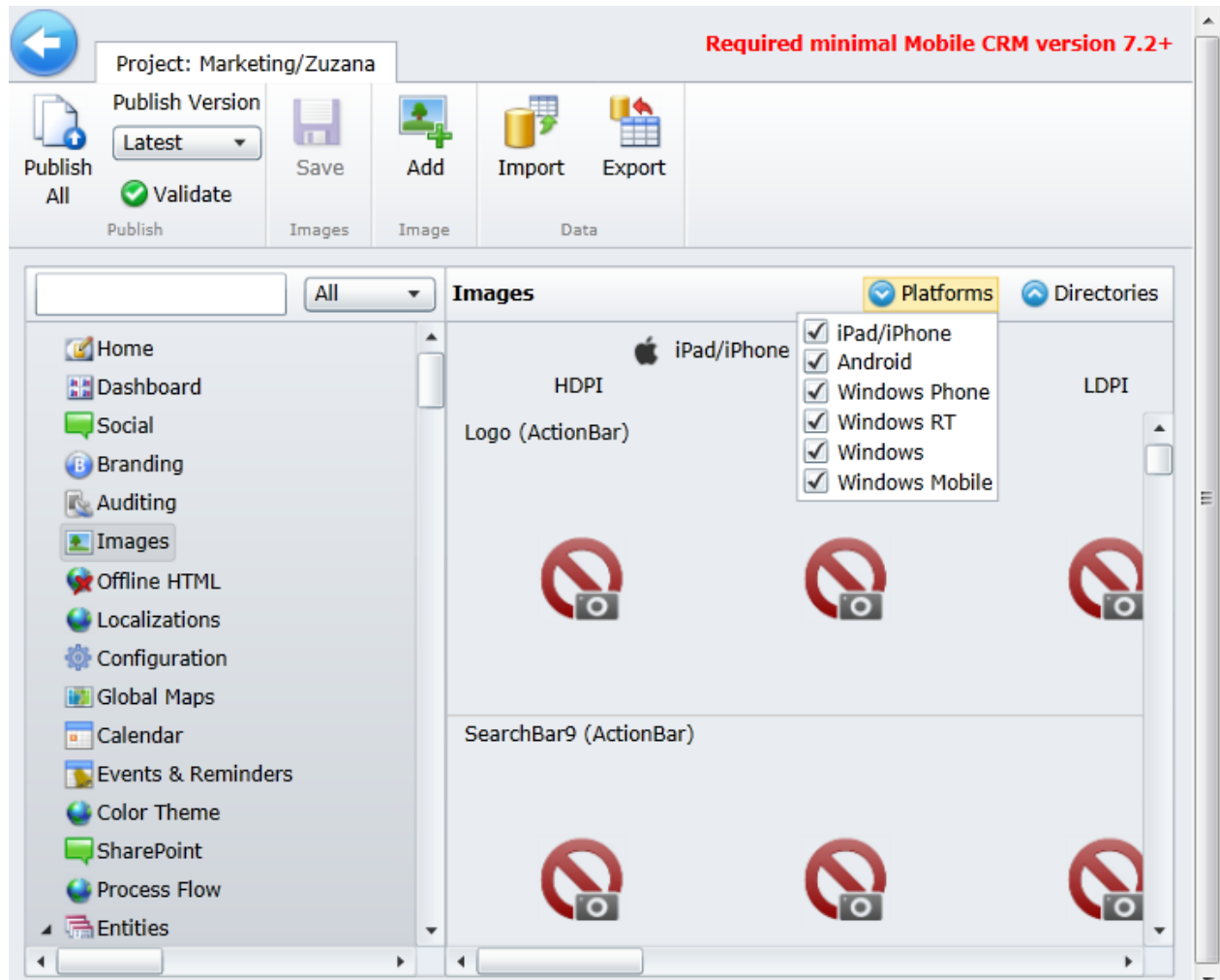
**Note:** The Server support for Auditing is only available for the CRM2011 so far. The CRM4 support for Auditing will be available in Q3 2012.

## 4.12 Images

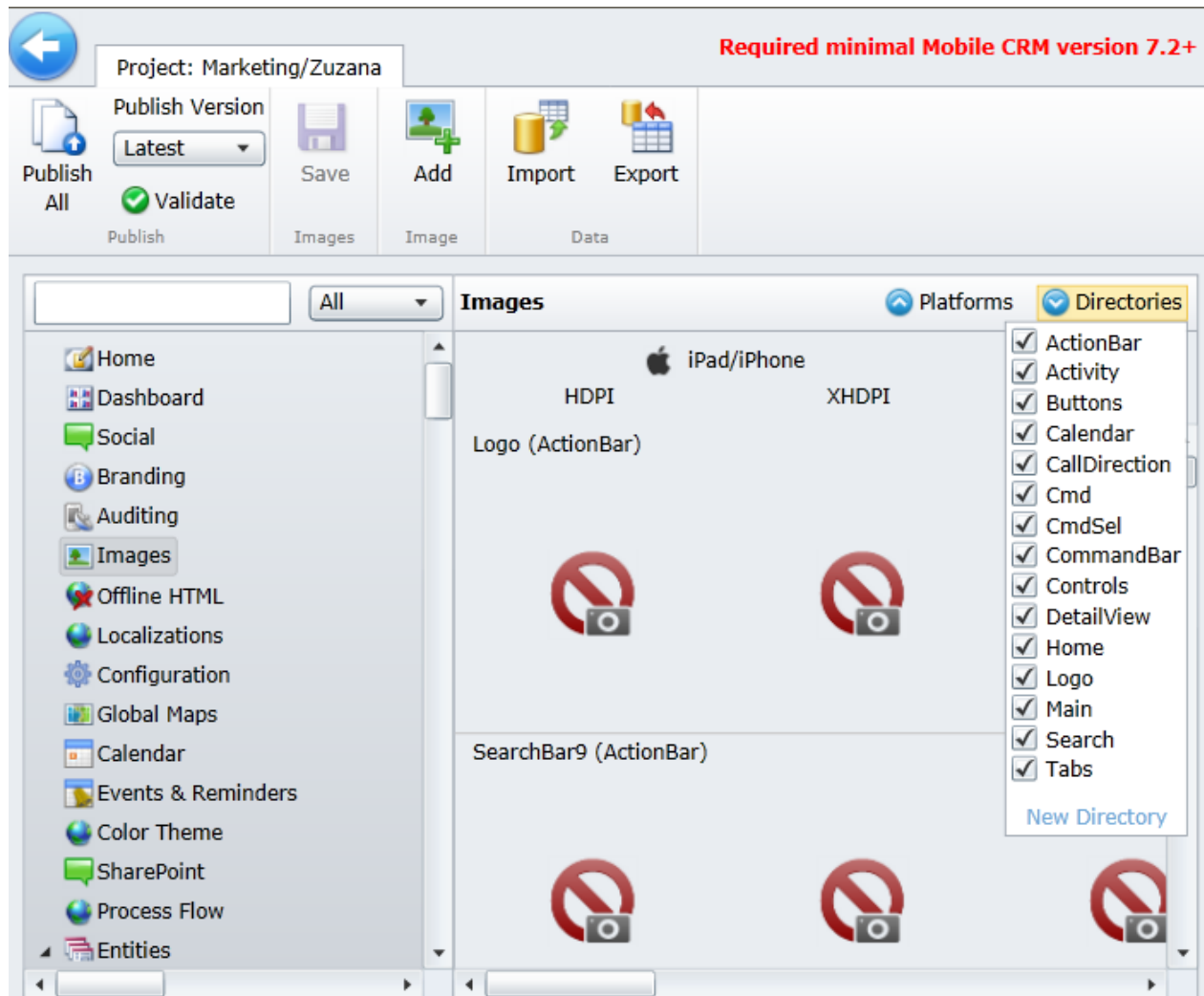
You can change the default images and icons, or add images for custom items (such as map pins, entity icons, form tabs icons and command icons) in the section titled Images.

The list shows all the available image items with its dpi variants, for each platform. You can narrow down the list by using the Platforms and Directories filters.

For an easier orientation, you can disable those platforms that you are not interested in (don't want to change the icons of).



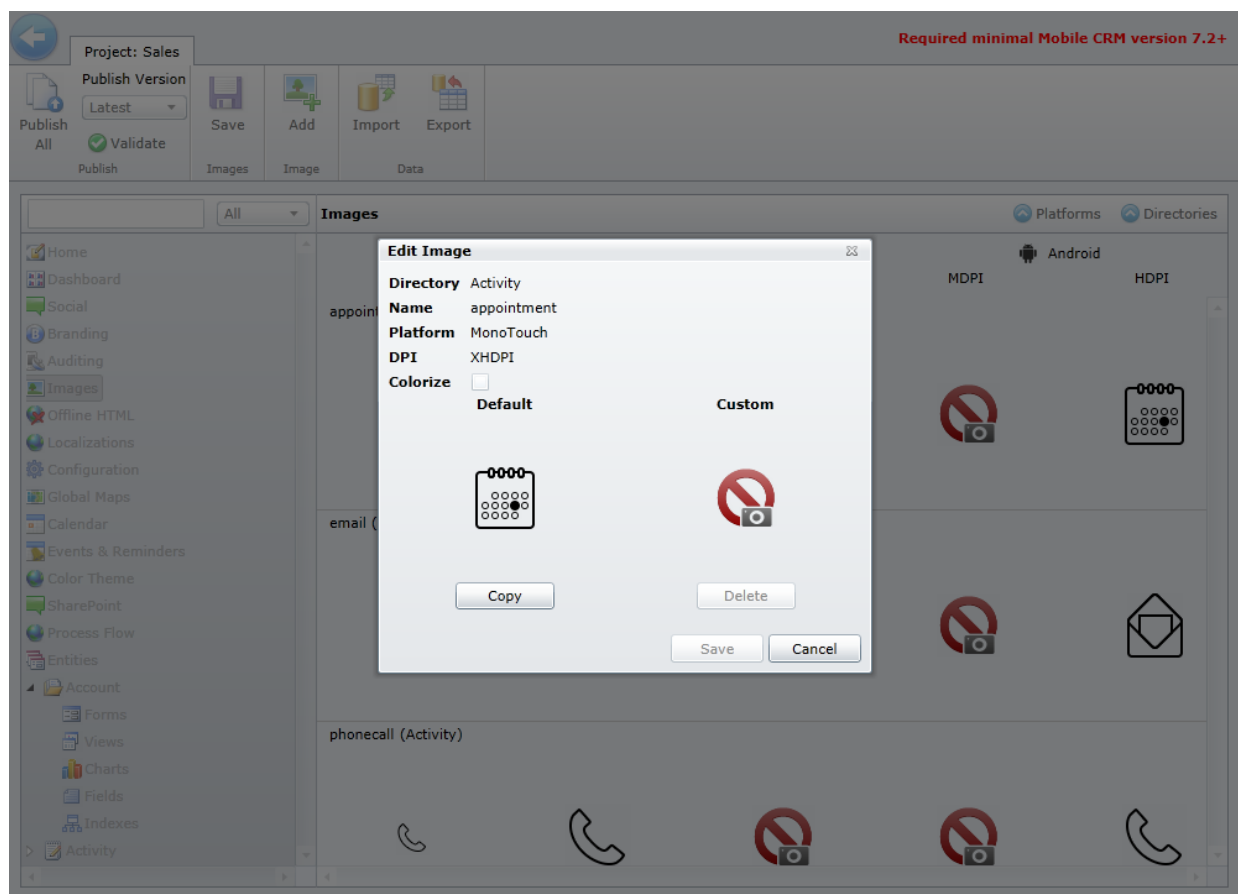
Or you can disable directories (sections) that you don't want to be shown.



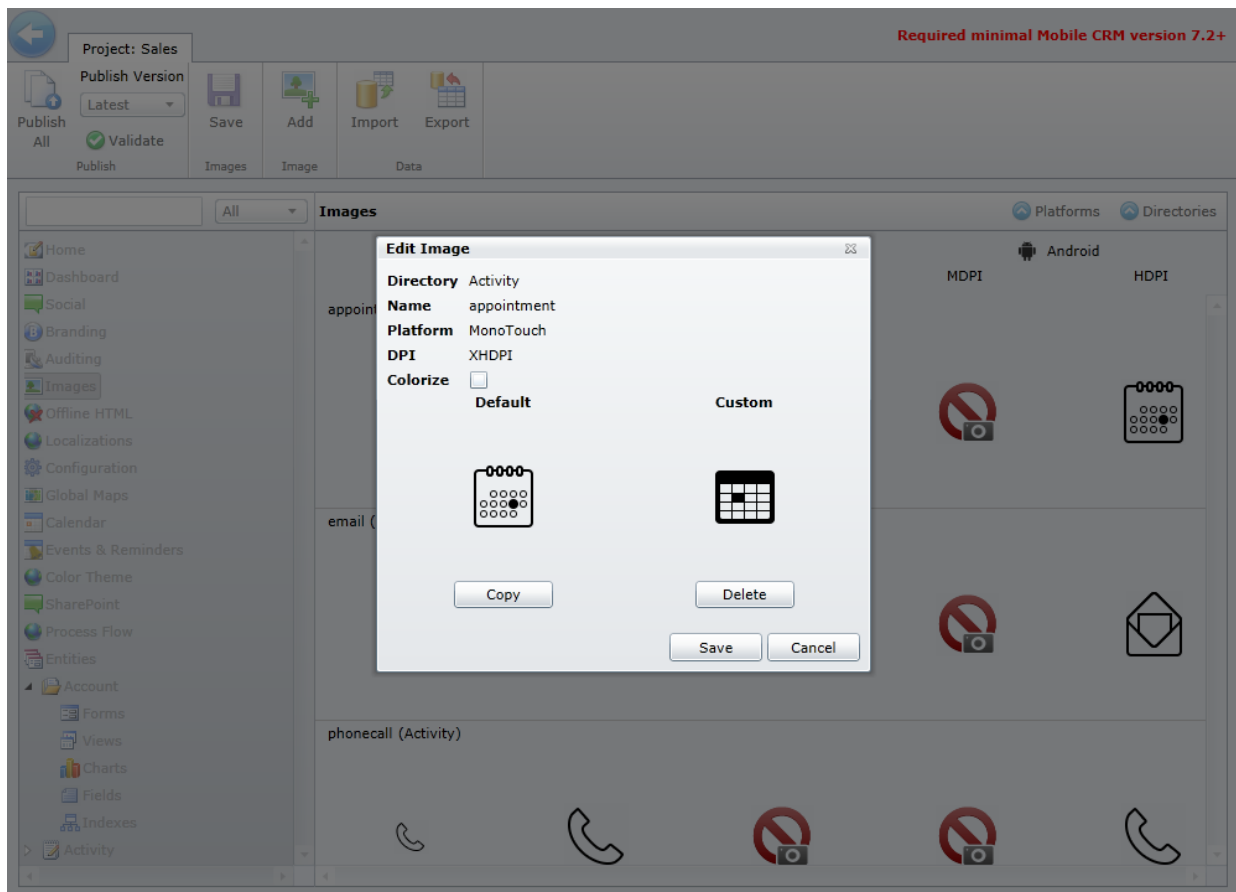
#### 4.12.1 Changing a standard image

If you want to replace a standard/default image with one of your own, locate the existing icon and then double-click on it.

Note: Items are listed in alphabetical order, first the Directory/folder and then the name of the item.



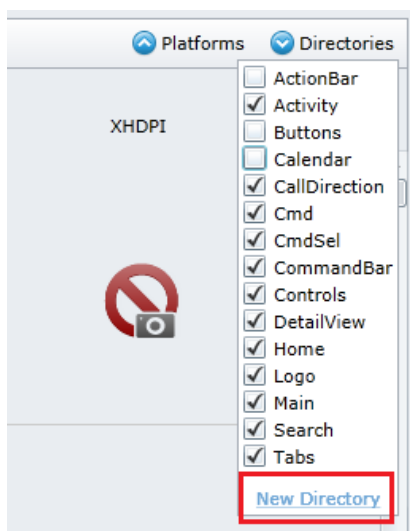
In the Edit Image window that will pop up, click on the no image icon to be able to upload a custom icon from your computer. To return to the default icon, click on the Delete button.



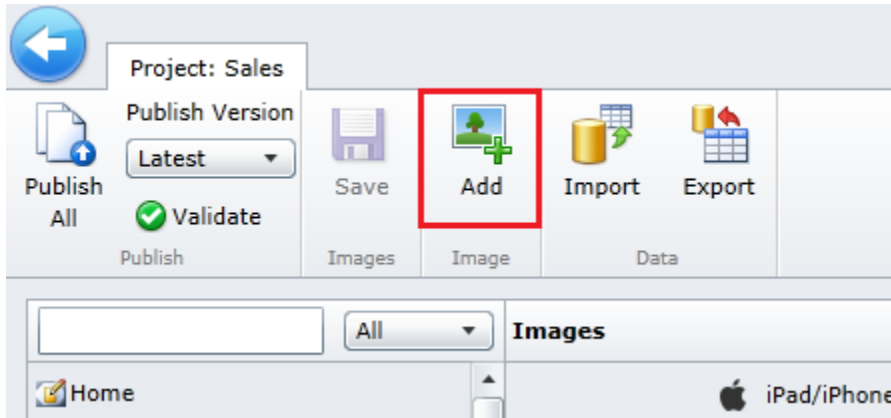
Once you are done, save the changes.

#### 4.12.2 Adding a custom image

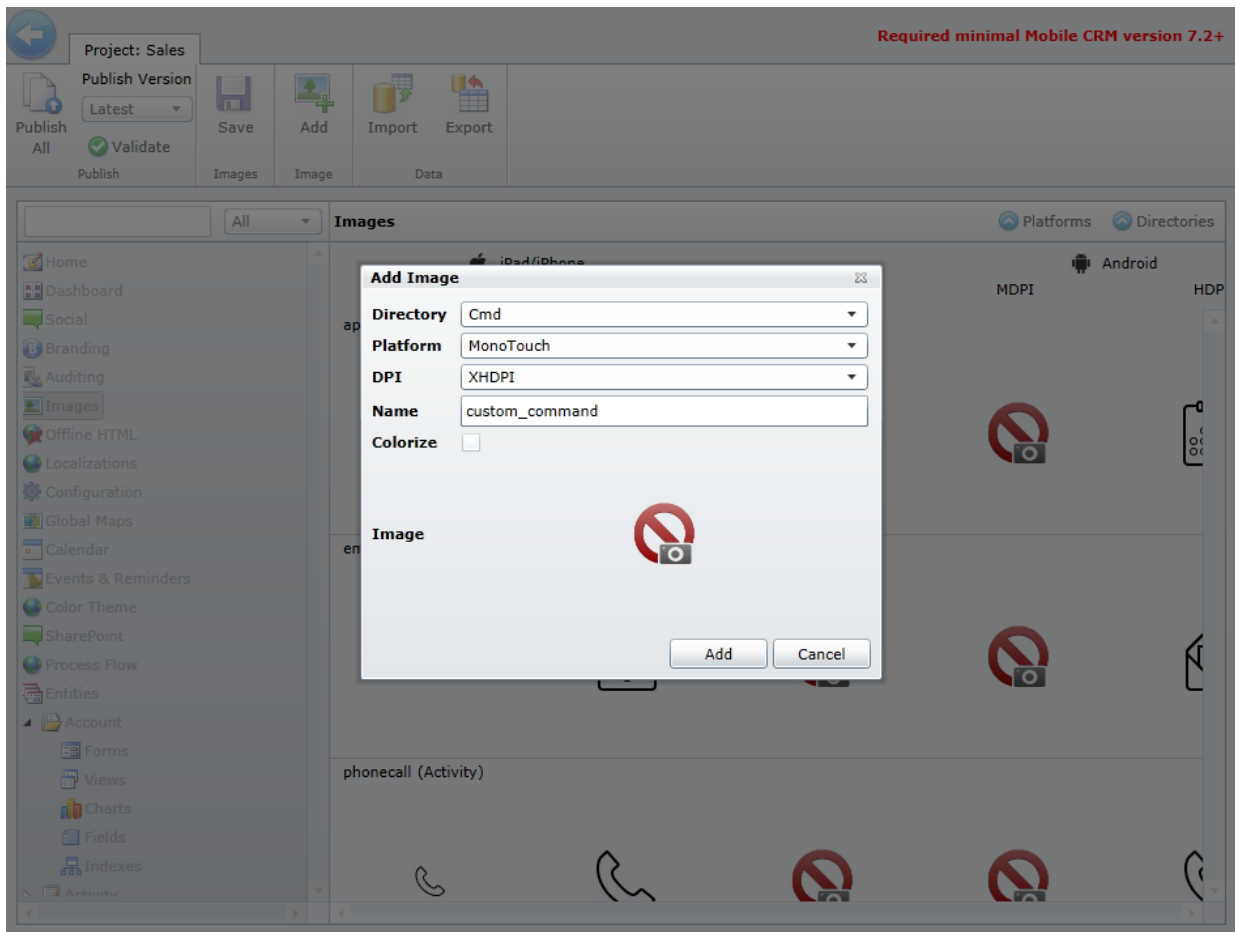
When you want to add a picture to a custom item, you can use the default directories, or you can create your own Directory, where you can store custom images. To do so, you need to go to Directories list and click on New Directory.



To add a new image, click on Add on the toolbar.



In the Add Image window, set image's properties.



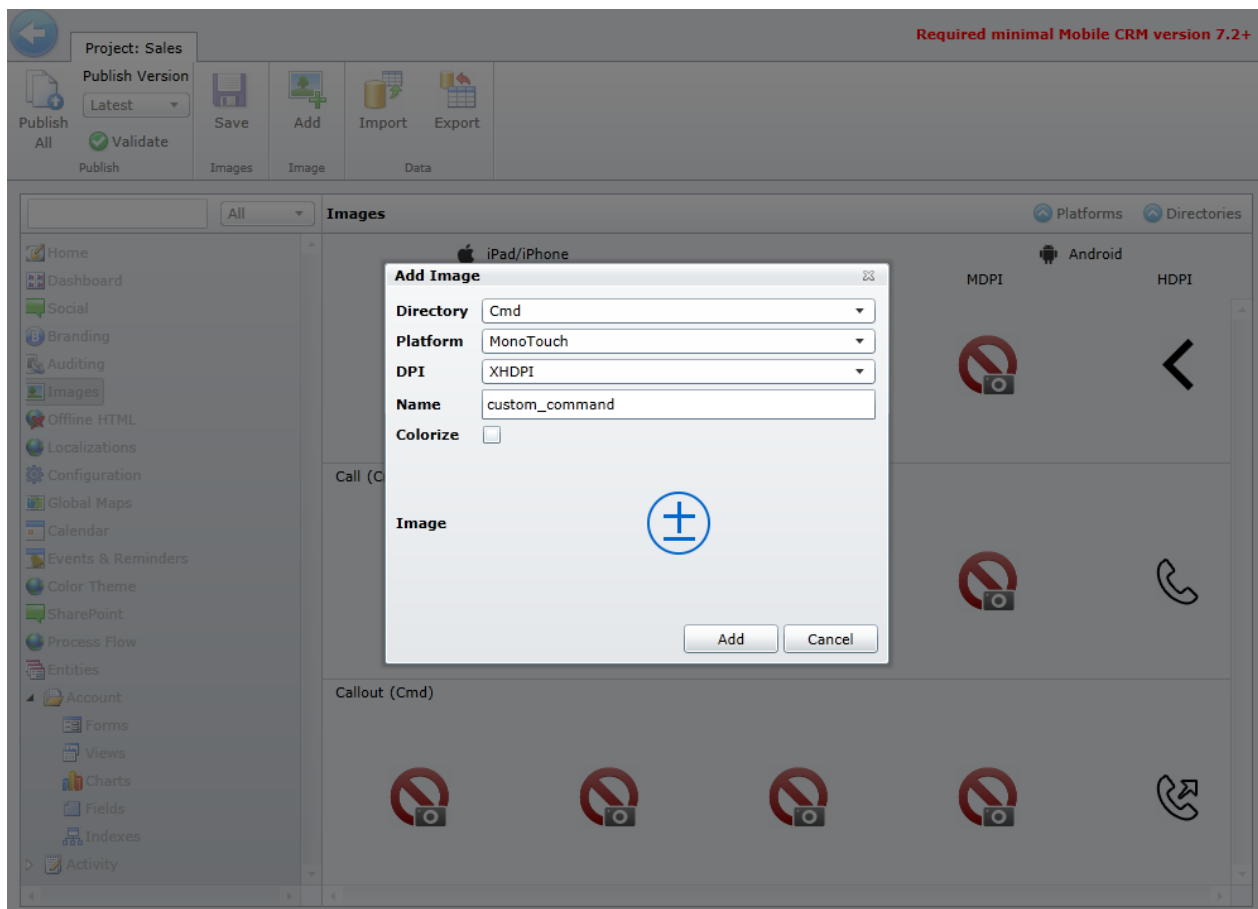
You need to specify the Directory/Folder, where the picture will be placed in, the platform, target DPI and name of the item, for which you are adding the picture.

*Tip: Please check the appropriate section/example for specific item properties. E.g. map pins, tab icons, view icons...*

The list of platforms:

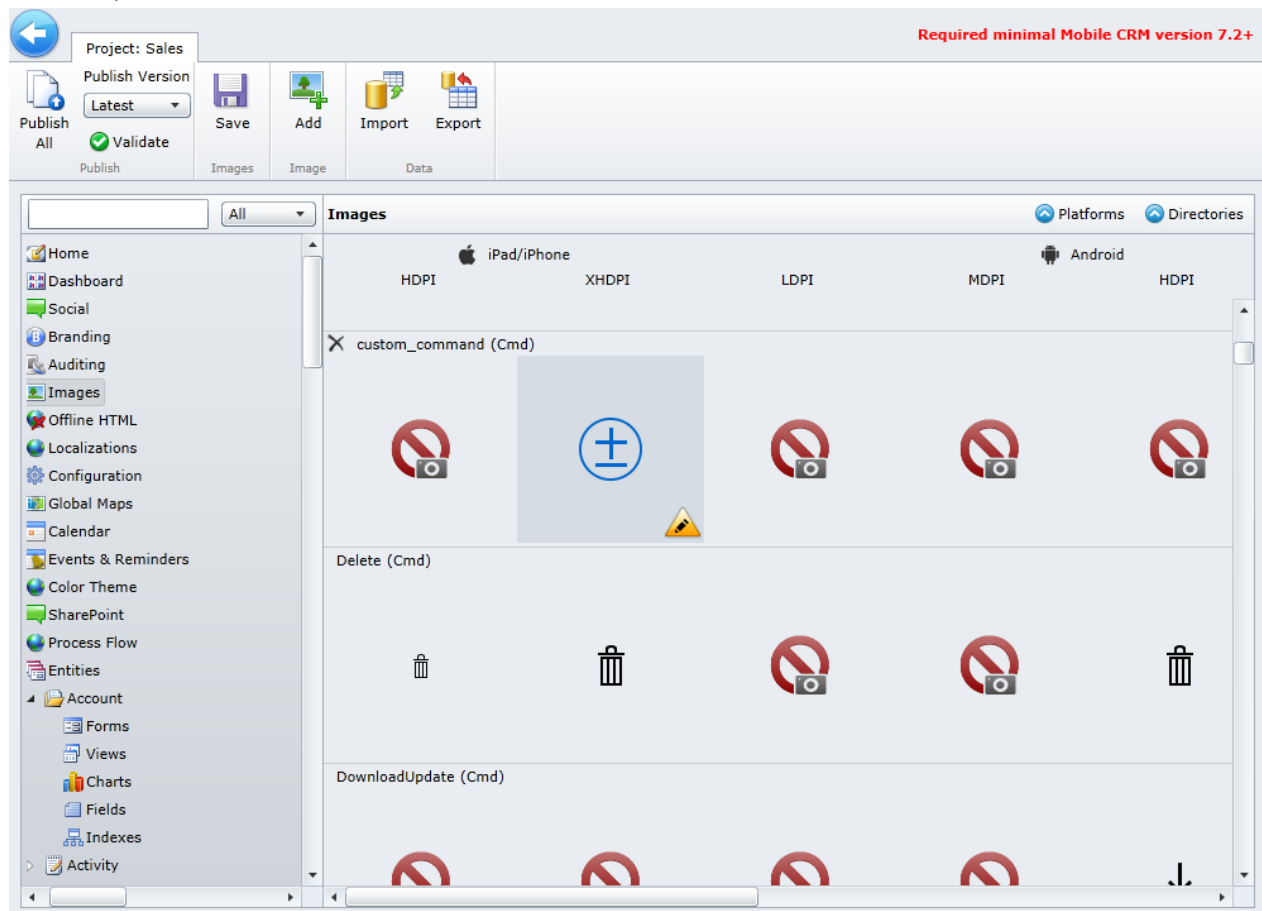
- MonoDroid – Android devices
- MonoTouch – iOS (iPhone, iPad)
- Windows – Windows Tablets
- Windows Mobile – Windows Mobile
- Windows Phone – Windows Phone

Then you need to click on the no image icon and upload an icon from your computer.

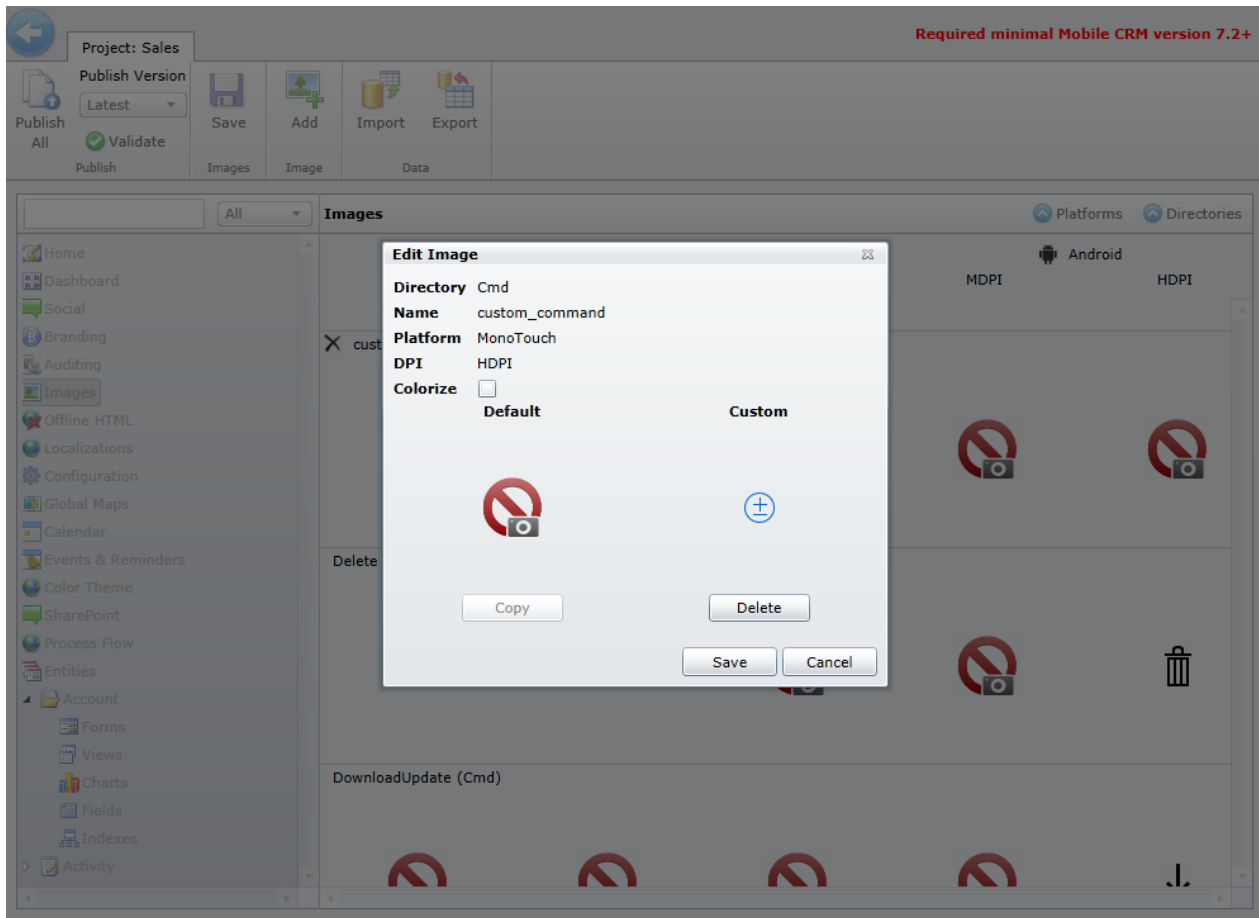


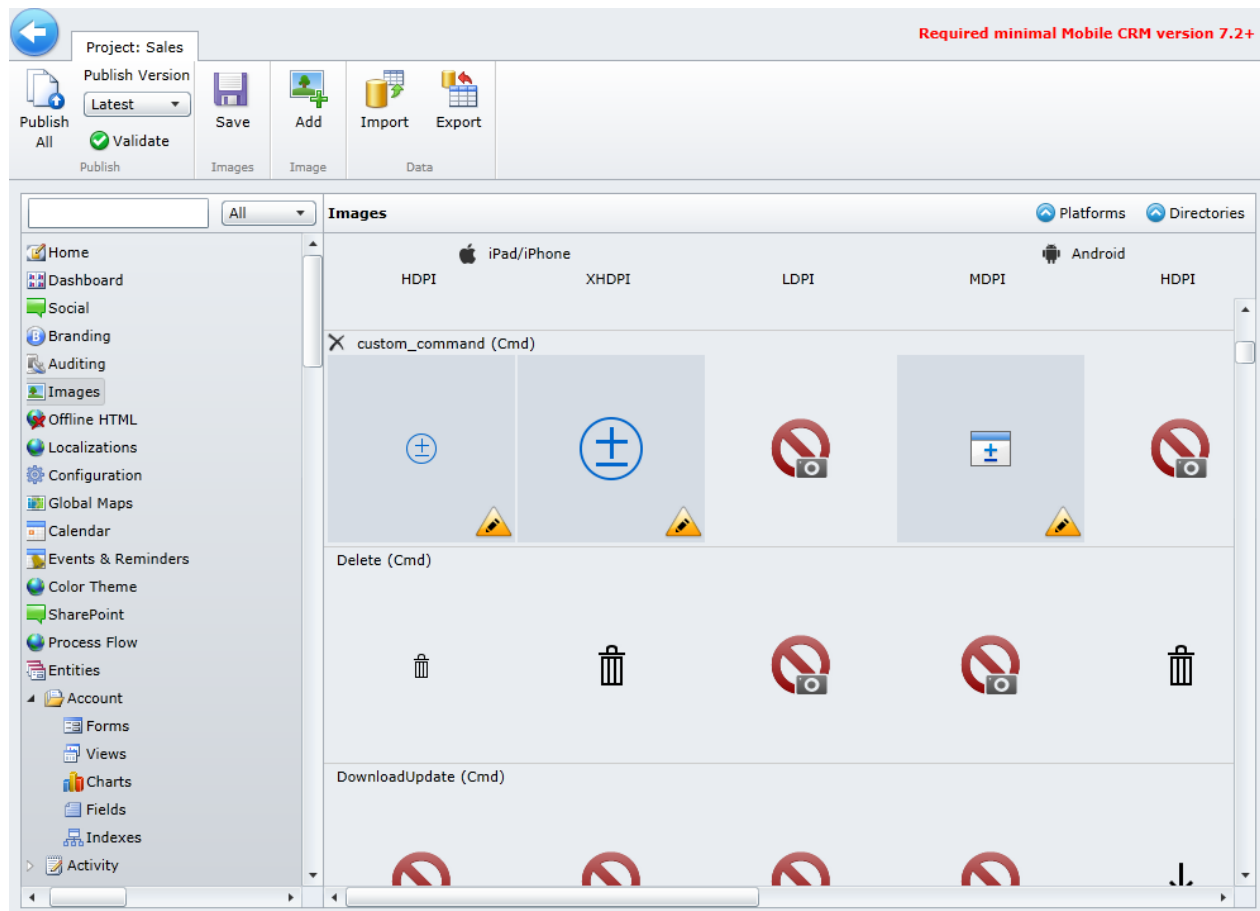
Other DPI versions, or images for other platforms can then be added in more simple way. Just locate the newly added image and continue adding images by double-clicking on the no image icon dedicated

to other platforms.



Click on the custom no image icon and upload your icon.





All you need to do now is to save the changes and publish the project.

## Colorize

If you want to use your picture in the same way as default pictures are (i.e. picture follows color selected in the theme or view style) you need to enable the Colorize option. It will create a mask from the picture you are adding. Your picture needs to have alpha channel. Everything, where alpha is different from 0, will be used as a mask and then this mask will follow the color set in theme or view style.

### 4.12.3 Bulk change/import of custom images - Advanced

The Bulk import is done by importing a specifically named zip file that contains the images in a specific folder structure – the best way to explore the folder structure is to download the icon package from our [website](#). Once you have the file, remove the directories and files you don't want to change. This way you don't have to worry about getting the names of the folders or the structure of the folders wrong.

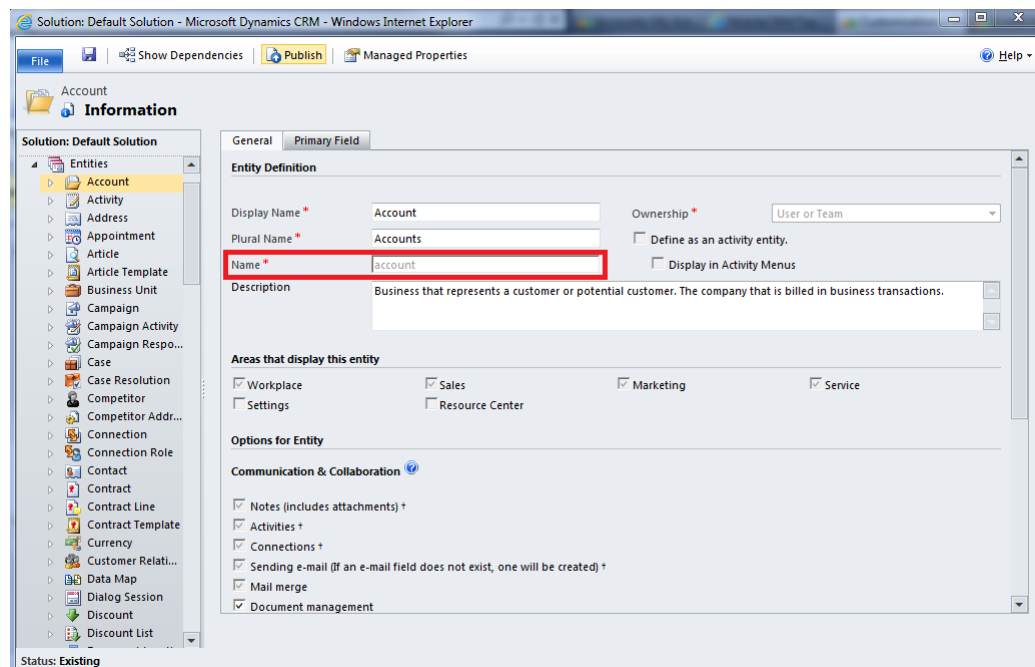
Please note, that different devices have different screen capabilities, and therefore there are different directories for them (like the Platform option in Images section in Woodford, when adding a new image).

- MonoDroid – Android devices
- MonoTouch – iOS (iPhone, iPad)
- Windows – Windows Tablets
- Windows Mobile – Windows Mobile
- Windows Phone – Windows Phone

Example: You want to place the image to the home section of the app - you need to place the image file into the subdirectory **Home** to the MobileCrm.zip file. Then names and sizes of the actual pictures have to follow existing ones as they differ per platform. In this example case, we will add a picture for the iOS.

If your users use newer and older iPad/iPhone devices, you need two sizes of the image – this is because the older apple devices have screens with a smaller resolution. Android devices are also divided by LDPI, MDPI, HDPI, XHDPI according to the resolution of the app (you can regulate this in the Android app's setup).

That's why you will need a small and a large image version that has a suffix @2x (e.g. account@2x.png). Please check the dimensions of existing images for the reference. Also the Tabs directory can be interesting for you if you want to change the images of the associated views. The name prefix of the image for the entity (on Home screen) should be the logic name of the entity. It can be checked in the Dynamics CRM server's Settings -> Customizations -> Customize the System -> Entities -> Entity Definition Name.



E.g. If you want to only add one image to the home screen for your custom entity with name cust1 and overwrite the default image for invoices then you create a zip file with following structure.

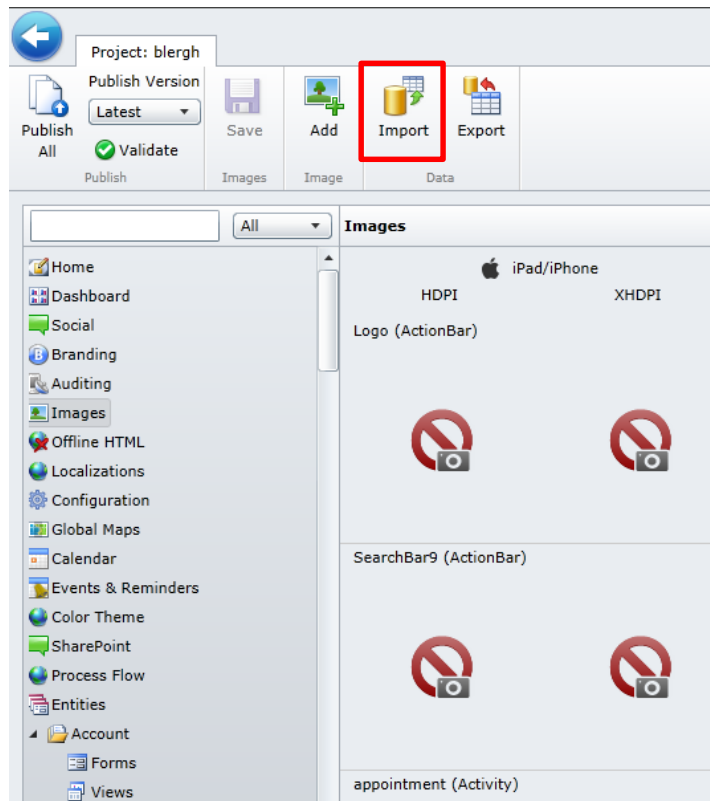
MobileCrm\Images.MonoTouch\Home\cust1.png

[cust1@2x.png](#)

invoice.png

[invoice@2x.png](#)

To import the file you just need to go to the Woodford/**Images**, there you click on the **Import** button on the top toolbar and you select this zip.



After the import is done you can verify the added images by searching for them in the list (use the filters Directory and Folder to get a quicker access to the images) or you can verify it by exporting the Images.zip, or by exporting the Mobile Project, adding an extension .zip to it and inspecting it. Images.zip file should be in the root.

***Note:** The zip should only contain images you want to replace or add, so if you use the sample zip, you need to remove all the default images, otherwise they will be used twice in the project, and the project will increase in the size, resulting to possible problems in synchronization, and increasing the time of synchronization.*

## 4.13 Configuration

Using the Configuration you can set some of the Resco Mobile CRM mobile application settings remotely. You can also prevent the settings from modifying by user. Each option has a description, and some specific options are specified bellow.

On the most right column (Default Value), there are the default values as they are set in the out-of-the-box version that can be downloaded from the stores or from our website.

If you want to set the setting remotely, you need to change the setting.

If you want to prevent user from changing the settings in the Mobile CRM Setup, you need to tick the **Lock** checkbox. If you only want to change the default settings and you want to give user the possibility to change the settings, keep the Lock cleared and the settings will be set only when the project is published (Mobile CRM application shows the message Application was updated after synchronization).

The **Value** column is used to define the value of the setting.

The changed option is highlighted in Bold.

The screenshot displays the 'Mobile CRM Configuration' window. At the top, there's a header bar with a back arrow, 'Project: Testing project', and a red warning 'Required minimal Mobile CRM version 7.4+'. Below this is a toolbar with 'Publish All', 'Validate', and 'Save' buttons. The main area is divided into a left sidebar with a tree view of application components (Home, Dashboard, Social, Branding, Auditing, Images, Offline HTML, Localizations, Configuration, Global Maps, Calendar, Entity Hubs, Events & Reminders, Color Theme, SharePoint, Google, Process Flow, Entities, Account, Forms, Views, Charts, Fields, Indexes) and a right pane titled 'Mobile CRM Configuration'. The right pane has a search bar and a table of settings.

| Name                          | Lock                     | Value    | Default Value |                                                                      |
|-------------------------------|--------------------------|----------|---------------|----------------------------------------------------------------------|
| <b>User Experience</b>        |                          |          |               |                                                                      |
| Allow Advanced Find           | <input type="checkbox"/> | True     | True          | Whether the user can use Advanced Find and create custom pers        |
| Allow Form Resize             | <input type="checkbox"/> | True     | True          | Whether to allow the user to toggle form's full-screen mode.         |
| Audio/Video recording quality | <input type="checkbox"/> | Medium   | Medium        | The recording quality (and file size) for audio or videos taken in t |
| Capture Photo Size            | <input type="checkbox"/> | Default  | Default       | The default photo size for photos taken in the app.                  |
| Client Customize              | <input type="checkbox"/> | True     | True          | Allow the mobile user to hide entities.                              |
| Duplicate Detection           | <input type="checkbox"/> | Disabled | Disabled      | Whether to use duplicate detection when creating a new record.       |
| <b>Enable List Buttons</b>    | <input type="checkbox"/> | False    | True          | Whether to show list row buttons.                                    |
| <b>Flexible Forms</b>         | <input type="checkbox"/> | True     | False         | Whether to use new forms UI                                          |
| <b>Full-screen Forms</b>      | <input type="checkbox"/> | True     | False         | Whether to show forms (on tablets) in full screen mode.              |
| HTML Email                    | <input type="checkbox"/> | False    | False         | Whether to show emails as original HTML or converted to text.        |
| Incremental List Search       | <input type="checkbox"/> | True     | True          | Whether to filter lists after every key stroke or whether to wait f  |
| <b>Save Signature As PNG</b>  | <input type="checkbox"/> | True     | False         | Whether to store signature as vector image SVG or PNG.               |
| <b>Show Personal Events</b>   | <input type="checkbox"/> | True     | False         | Whether to show personal calendar events in the application Cal      |

#### 4.13.1 Configuration examples

**Client Customize** settings does not use the Lock checkbox. If you leave the Value checkbox ticked, user will be able to use the Data part of the Setup and enable/disable entities. If you clear the Value checkbox, user will not see the Data part anymore and will not be able to enable/disable entities.

**Multi Thread Sync** does not use the Lock checkbox, as this setting is not available on the Mobile CRM Setup. By default this option is enabled, but if you are experiencing synchronization problems, you can turn it off.

**Use Database Encryption** does not use the Lock checkbox, as this setting is not available on the Mobile CRM Setup. By default the local database on the mobile device is encrypted. But it can be disabled.

**Save Signature As PNG** – if you enable this option and set value to true, the signature files will be saved as PNG files instead of SVG, that is used when value is false.

If you have some automatic field mapping set on the CRM server, by enabling **Use Entity & Attribute Map**, you will enable the same functionality on Mobile CRM application.

**Background synchronization** – You need to set **Require Sync Login** option to **False** and **Save Password** to **True**

**Automatic synchronization** – Please check our [Blog post](#)

#### 4.13.2 Duplicate detection

The purpose of the Duplicate detection is to discover duplicate records, such as:

- Accounts using the same name
- Contacts using the same e-mail address

The duplicate detection rules are to be set on the CRM server (for more info, go to <http://www.microsoft.com/en-us/dynamics/crm-customer-center/set-up-duplicate-detection-rules-to-keep-your-data-clean.aspx>). Mobile CRM application does not create any rules on its own; it just may be directed to make use of the CRM server rules.

If you do so, then whenever an entity record is saved, this record is compared against the existing records in order to find possible duplicates. If there are any, MobileCRM application displays a warning and the user is given a chance to edit the data.

This process is called duplicate detection and can be set up to work in various ways. In particular, you need to set up the Duplicate detection mode as either **Disabled** (no detection is done), **Enabled** or **AlwaysOnline**.

**Enabled** mode works as follows:

- a) If MobileCRM is in the **offline mode**: The local database is checked for duplicates using the local rules.\*
- b) If MobileCRM is in the **online mode**: The server database is checked for duplicates using the server rules.

**AlwaysOnline** mode differs in a single aspect: It always (even if Mobile CRM app is offline) looks for duplicates in the server database.

\*) Duplicate detection is stored in system entities duplicaterule and duplicaterulecondition. These entities physically contain the duplicate detection rules. They are originally stored on the server (**server rules**), but once enabled, the synchronization will copy the rules to the local database creating thus **local rules**.

**Note:** Make sure that the SyncFilter does not exclude rules that are needed for the duplicate detection. Also, please do not disable these entities in Woodford.

## 4.14 Global Maps

In Global Maps you can create items, which show selected entity records on the map, on the Home section.

You can edit the default Map, or create a new one. On global map editor you can add any entity. You also need to specify entity View, which will be used. This view need to have GPS fields enable. Either entity fields or GPS fields from the parent record (Regarding). [Please check this example.](#)

If you enable “Is Initial” checkbox, that view will be enabled by default on the Map.

| Entity Name | View Name | Is Initial                          |
|-------------|-----------|-------------------------------------|
| Account     | Accounts  | <input checked="" type="checkbox"/> |
| Contact     | Default   | <input checked="" type="checkbox"/> |
| Lead        | Default   | <input checked="" type="checkbox"/> |
| Account     | Default   | <input type="checkbox"/>            |

To be able to show records from this entity on the Global Map on the Home section, these records need to have GPS coordinates entered as latitude and longitude fields. To learn more, please check [the prerequisites.](#)

## 4.15 Calendar

You can add any activity entity to be available on the Calendar. Custom activity entities are also supported. For calendar, you can set various constraints, and different color rules. You can create multiple calendars, and each calendar can have different activity entities displayed, and different constraints and rules applied. You need to place calendars on the Home separately.

When you open the existing calendar (Tourplan), or create a new one, you have various options to set.

### 4.15.1 Views

On the Views tab you select the entity views, which are available in the calendar. This also defines which activity entities will be available on the specific calendar. You can select the default entity, and the initial view that will be set each time the calendar is opened.

**Edit Calendar: Tourplan**

Views Constraints Rules Required minimal Mobile CRM version 7.1+

 Save & Close  
Close

Deselect All  
Select Public Views  
Views

Initial Entity: Service Activity [serviceappointment]

| Name                                                   | Type                | Initial View                        |
|--------------------------------------------------------|---------------------|-------------------------------------|
| Activity                                               |                     |                                     |
| <input checked="" type="checkbox"/> All Activities     | Public View         | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> My Activities                 | Default Public View | <input type="checkbox"/>            |
| <input type="checkbox"/> Open Activities               | Public View         | <input type="checkbox"/>            |
| <input type="checkbox"/> Scheduled Activities          | Public View         | <input type="checkbox"/>            |
| Appointment edit crm                                   |                     |                                     |
| <input checked="" type="checkbox"/> My Appointments    | Default Public View | <input type="checkbox"/>            |
| <input checked="" type="checkbox"/> All Appointments   | Public View         | <input type="checkbox"/>            |
| <input type="checkbox"/> My Completed Appointments     | Public View         | <input type="checkbox"/>            |
| E-mail                                                 |                     |                                     |
| <input checked="" type="checkbox"/> My Received Emails | Default Public View | <input type="checkbox"/>            |
| <input type="checkbox"/> My Sent Emails                | Public View         | <input type="checkbox"/>            |
| <input type="checkbox"/> My Draft Emails               | Public View         | <input type="checkbox"/>            |
| <input type="checkbox"/> All Emails                    | Public View         | <input type="checkbox"/>            |
| Phone Call                                             |                     |                                     |
| <input type="checkbox"/> All Phone Calls               | Public View         | <input type="checkbox"/>            |
| <input type="checkbox"/> My Phone Calls                | Default Public View | <input type="checkbox"/>            |

### 4.15.2 Constraints

In Constraints, you can set limitations for the calendar.

In **Date Range** you can set the date when user can create activities from the calendar.

**Time Range** sets hours, when user can create activities from the calendar.

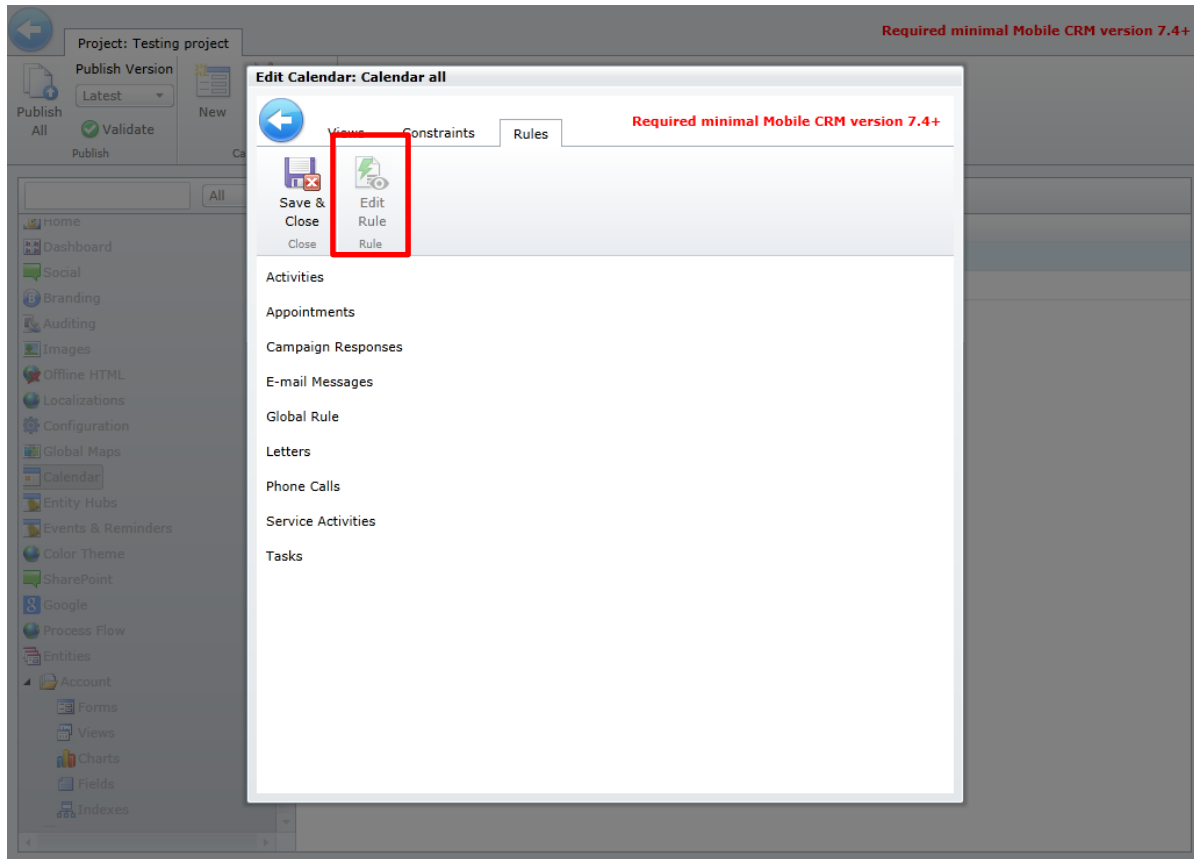
**Day Filter** specifies which days are available on the calendar, and when user can create activities from the calendar.

In **Tabs** you can enable/disable calendar views/tabs

#### 4.15.3 Rules

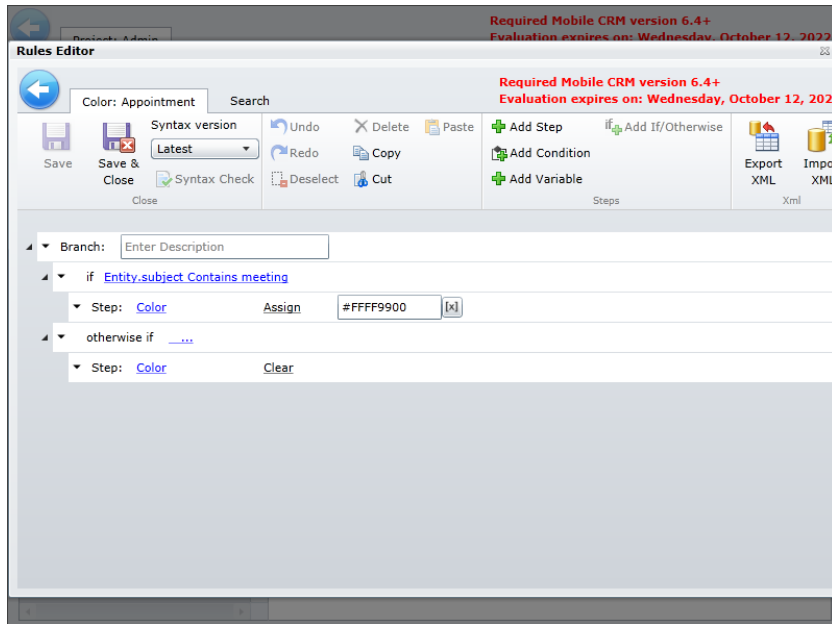
You can also control the color of the entries in the calendar based on Rules functionality. This is similar to Form Rules so prior form rules knowledge and experience is needed.

You can set different rules for specific activity entity, or you can setup Global Rule, where you can e.g. disable the drag & drop functionality for a specific entity.



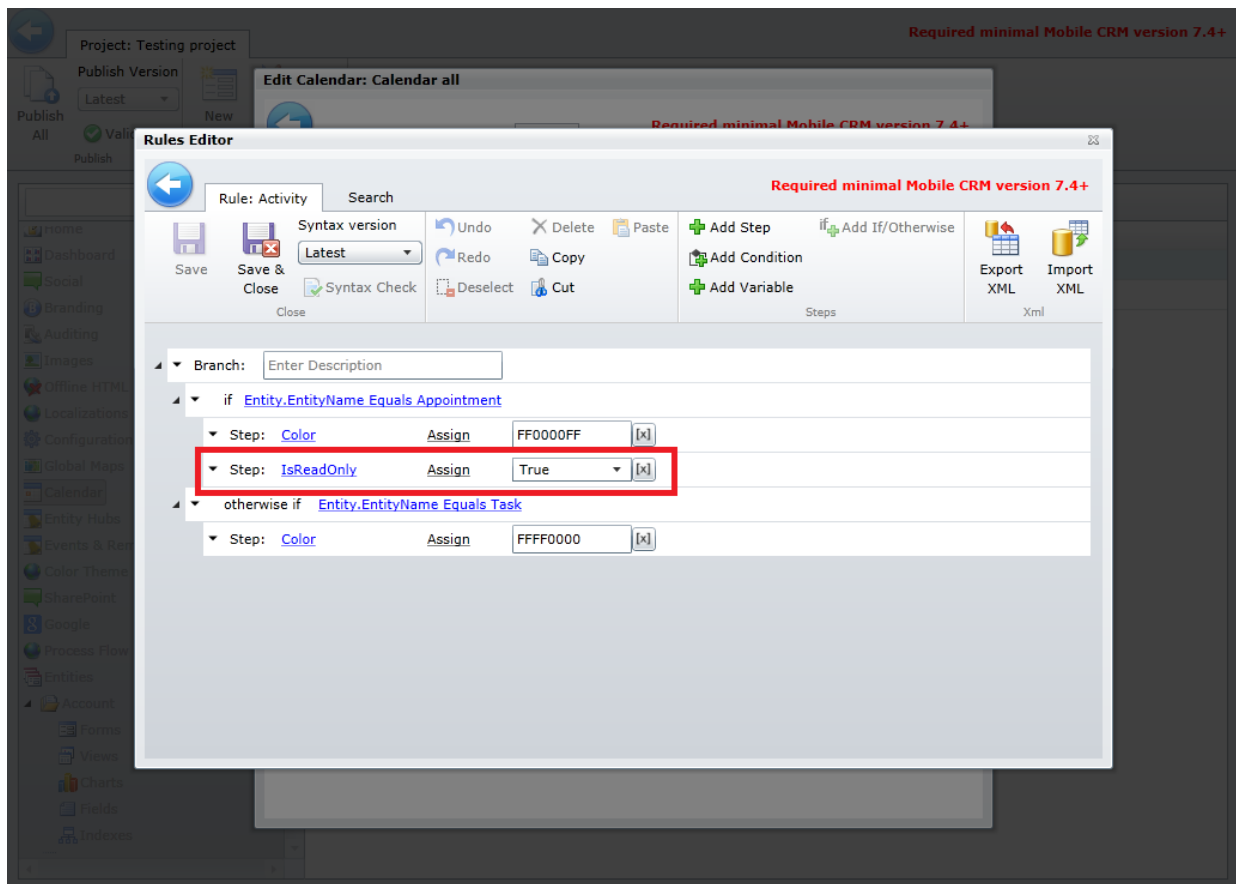
The rule can look like this.

*Example* – I want to color appointments by the subject. When the subject of the appointment contains the string “meeting” I want to color this Appointment in orange color (#FFFF9000 color).



Color is changed by clicking on **Add Step**, then selecting Color from the dropdown, then entering the color value (##AARRGGBB, AA = Alpha/Transparecny, RR = Red channel, GG = Green channel, BB = Blue channel) into the text box in the **Assign** operator.

It is also possible to add the drag & drop disabling

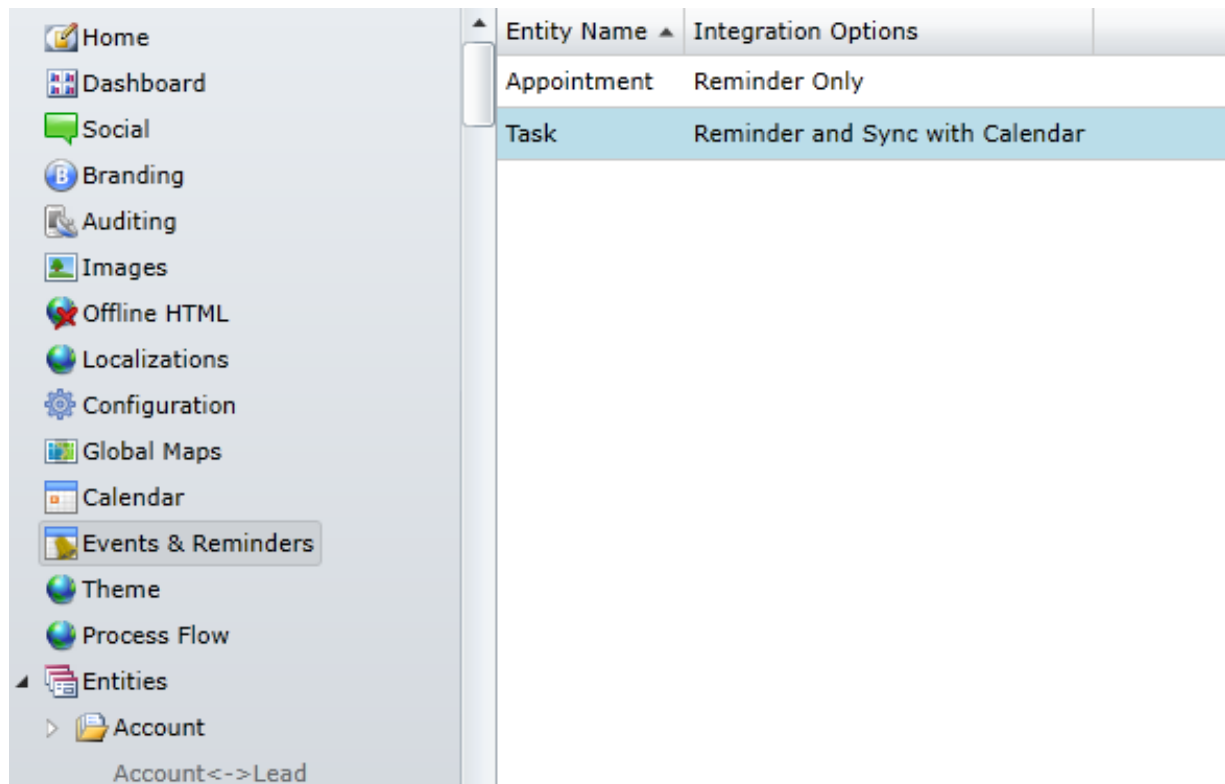


## 4.16 Events & Reminders

This option defines how to show personal events in app's calendar, or show CRM events in device's native calendar – available for iOS 6.0+, Android 4.0+. For other devices only reminders of the CRM events are available.

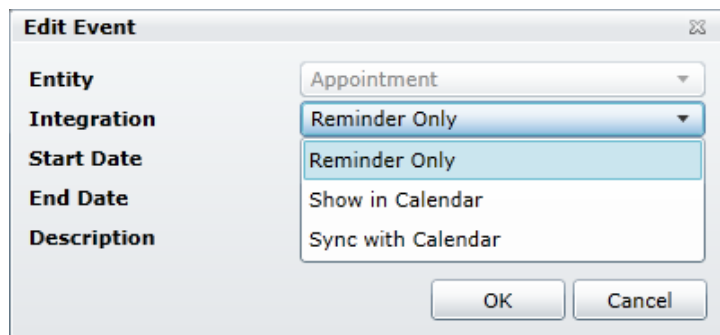
### 4.16.1 CRM events in the personal (device's native) Calendar:

To display MobileCRM events in a Calendar app on the phone/tablet, go to Woodford's new tab called 'Events & Reminders'.



In this tab, you can define which events will trigger reminders, as well as which will be displayed in the personal app.

Every event type (entity) has following integration options:



- **Reminder Only** – When the activity is due and the Mobile CRM app is not running in the foreground, a reminder will be shown to user.
- **Show in Calendar** – CRM events are displayed in native system calendar (a new calendar called 'CRM Events' will be added). This option includes also reminders. It does not allow users to edit CRM events within the native device's calendar.
- **Sync with Calendar** – Any changes of CRM events made from the native calendar app will be reflected in MobileCRM app. This option includes also reminders.

#### 4.16.1.1 Filters

You need to set a filter for each entity by clicking on 'Define Filter'.

Only those records that meet the filter criteria will trigger reminders/ be displayed in the system calendar.

The screenshot shows a configuration window for the 'Appointment' entity. It has a blue header bar with the title 'Appointment'. Below the header, there are two filter rules defined:

- Status** **Equals** **Open;Scheduled**
- Owner** **Equals** **Current User**

To force users to have reminders/CRM events on the device calendar, lock the settings (mobile users won't be able to change them). Go to 'Configuration' tab, enable 'Use Reminders' option and click on 'Lock'.

#### 4.16.2 Personal events in the Mobile CRM Calendar:

The option to show personal events in the Mobile CRM Calendar can be set by each user within the app itself. This option is disabled by default, but can be enabled by turning on the 'Private Calendars' option in the application's Setup section.

A system admin can however change this default setting or enable/disable this option. For this, go to Woodford's Configuration tab and click on 'Show Personal Events'.

The screenshot shows the 'Mobile CRM Configuration' interface. At the top, there's a header bar with a back arrow, 'Project: Calendar colors', and a red status message 'Required minimal Mobile CRM version 7.1+'. Below the header, there's a sidebar with a tree view of configuration categories: Auditing, Images, Offline HTML, Localizations, Configuration, Global Maps, Calendar, Events & Reminders, Process Flow, Entities, Account, Activity, Address, Announcement, Appointment edit crm, Article, Article Template, Business Unit, Campaign, Campaign Activity, Campaign Activity<->Sales L, Campaign Response, Campaign<->Sales Literature, Case, Case Resolution, and Competitor. The main area is titled 'Mobile CRM Configuration' and contains a table of settings.

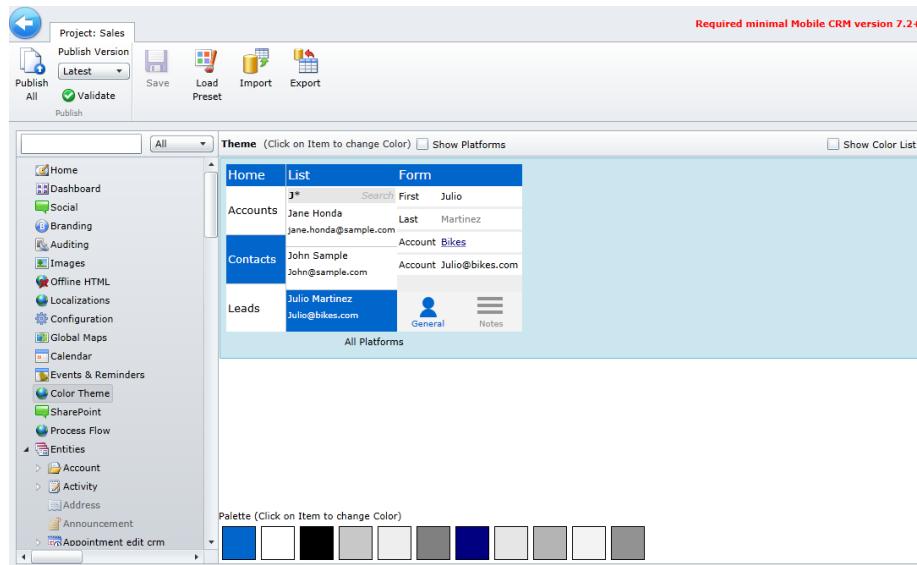
| Name                          | Set                                 | Lock                     | Value       | Default Value |
|-------------------------------|-------------------------------------|--------------------------|-------------|---------------|
| <b>User Experience</b>        |                                     |                          |             |               |
| Allow Advanced Find           | <input type="checkbox"/>            |                          |             | True          |
| Application Color             | <input type="checkbox"/>            |                          |             | #FFFF0000     |
| Audio/Video recording quality | <input type="checkbox"/>            |                          |             | Medium        |
| Capture Photo Size            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Max_640x480 | Default       |
| Client Customize              | <input type="checkbox"/>            |                          |             | True          |
| Enable List Buttons           | <input type="checkbox"/>            |                          |             | True          |
| Save Signature As PNG         | <input type="checkbox"/>            |                          |             | False         |
| Show Personal Events          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | True        | False         |
| Use CRM Email                 | <input type="checkbox"/>            |                          |             | False         |
| Use Reminders                 | <input type="checkbox"/>            |                          |             | False         |
| <b>Network</b>                |                                     |                          |             |               |
| Auto Sync                     | <input type="checkbox"/>            |                          |             | Never         |
| Auto Sync Delay               | <input type="checkbox"/>            |                          |             | 0             |
| Max Attachment Size           | <input type="checkbox"/>            |                          |             | 1000000       |

If 'Show Personal Events' is enabled and the value is set on 'True', users will by default have their personal events displayed in the Mobile CRM Calendar. If it's set on 'False', personal events will not be displayed in the Mobile CRM Calendar.

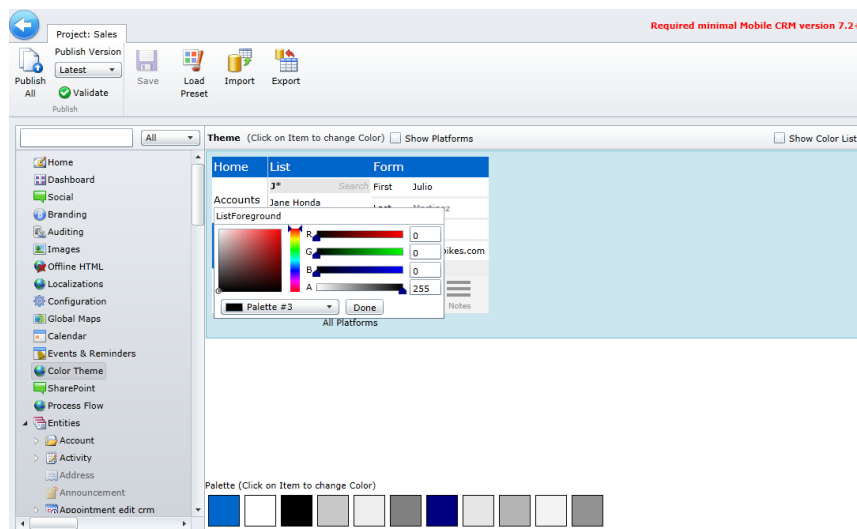
The 'Lock' option will lock the setting, so that mobile users won't be able to change it within the app.

## 4.17 Color Themes

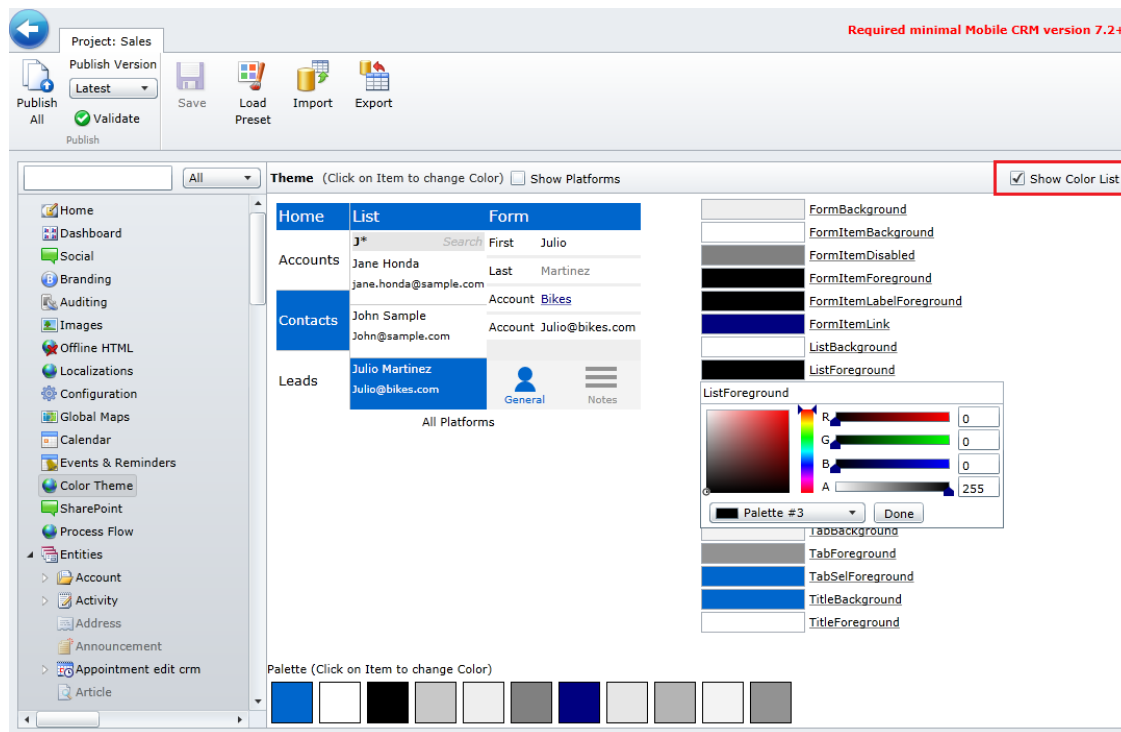
In Color Themes section, you are able to change different colors for the app and give Mobile CRM app e.g. corporate branding.



Setup is WYSIWYG, so you can click on any sections on the preview to change its color. The changes will be shown immediately on the preview.



If you want to see all the items, the color of which you can change, click on Show Color List.



**Tip:** Colors set for ListForeground and ListSelForeground for Views and TabForeground and TabSelForeground for tab are also used for icons, that were Colorized, when importing via images section.

It is also possible to create separate color versions for different platforms. Platform dependent changes will be used instead of the All Platforms color theme.

Customize – ios – Apple iOS platform

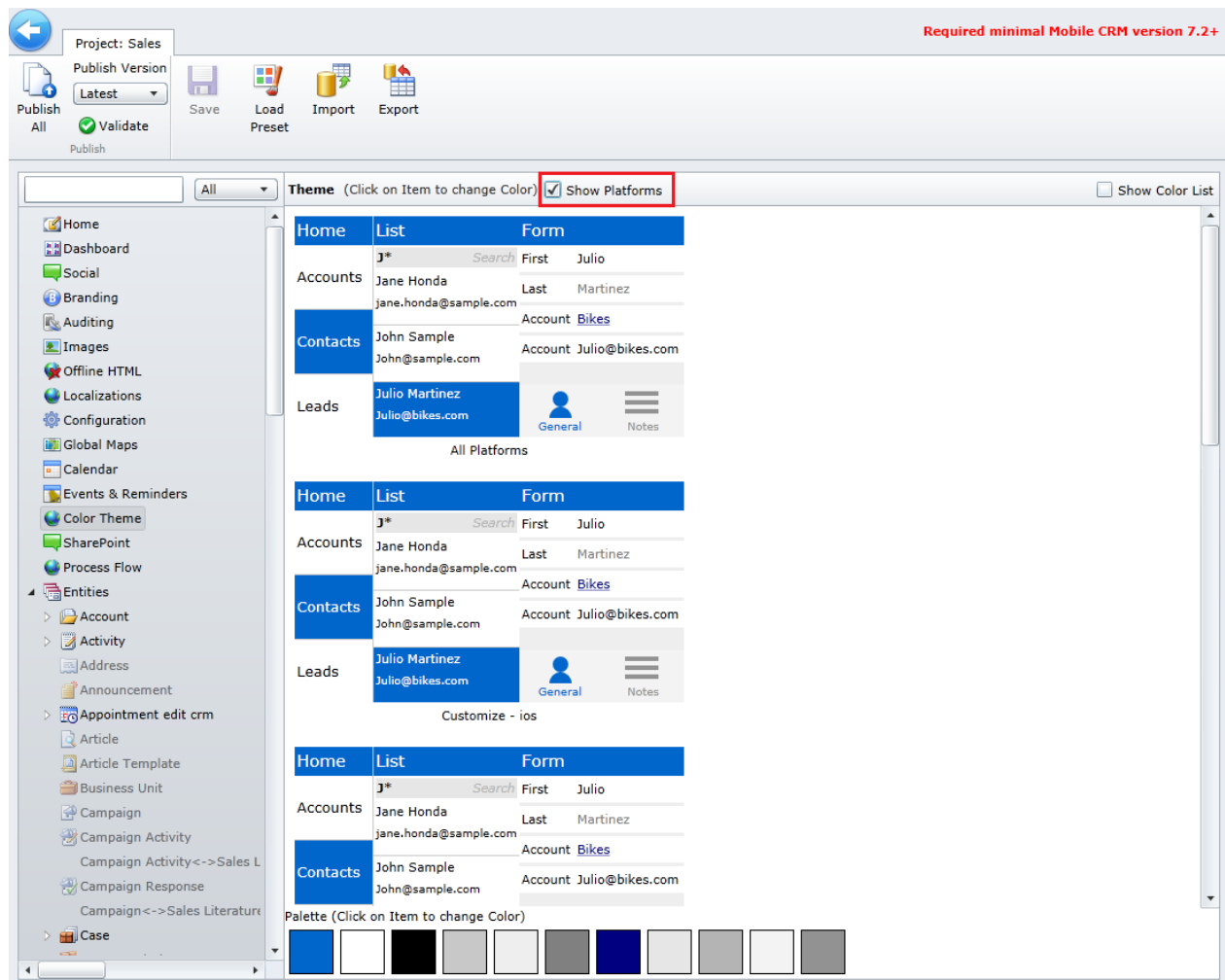
Customize – android – Google Android platform

Customize – win – Windows desktop, application, which installation file can be downloaded from our website

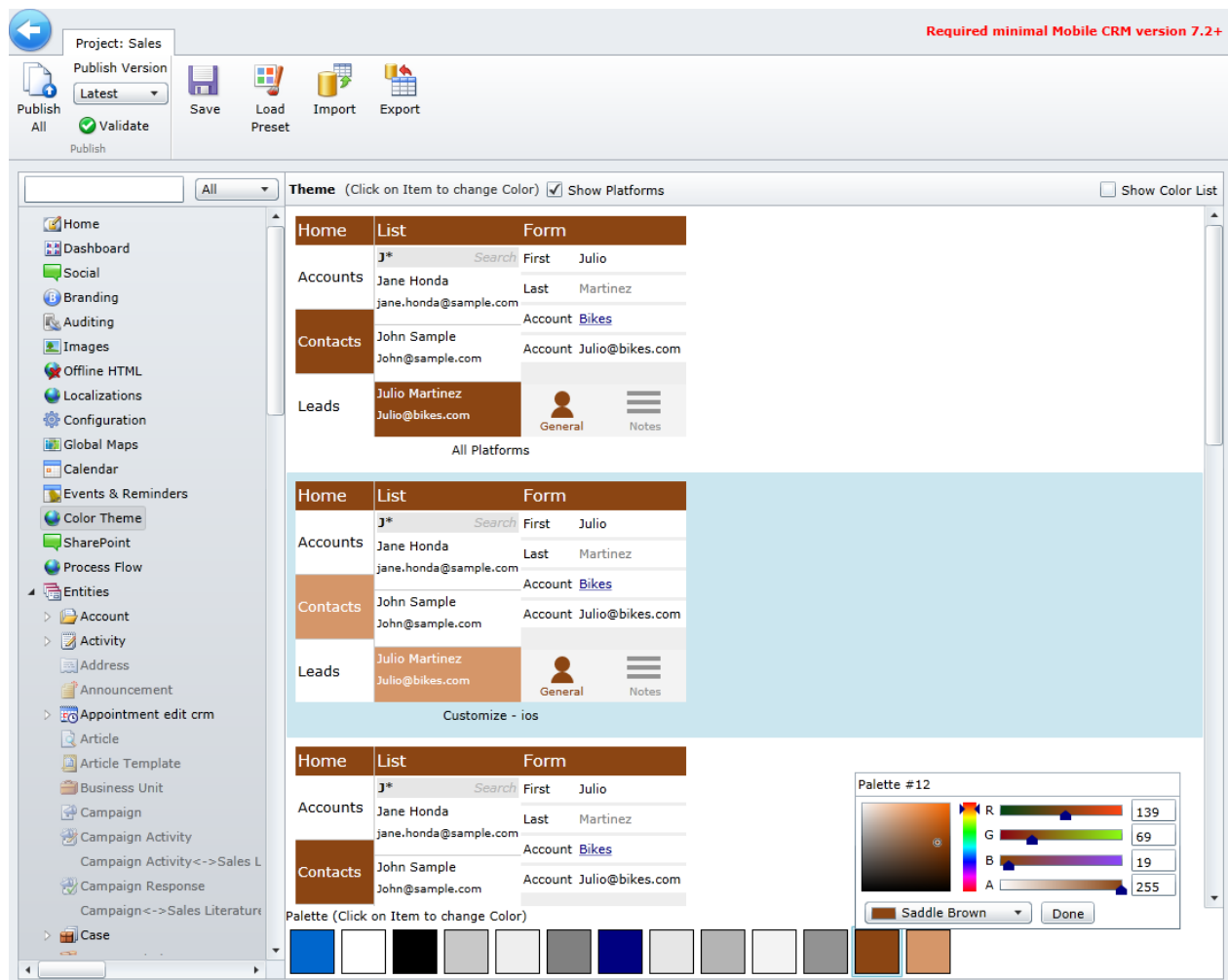
Customize – winrt – Windows RT, 8, 8.1 Metro style applications available from Windows Store

**Note:** WinRT only accepts foreground color changes

Customize – wp – Windows Phone platform



On the bottom you can find the Palette – list of colors that are used in the current theme. By changing the palette color, all items, that use this palette color, will be changed accordingly.



Using the Load Preset button, all changes will be reverted back to the default setting.

You can export the current theme setup and save it by using the Export button (to use it in another project for example). Import will import a theme setup and apply it.

*Tip:* You can check our Blog post about [Themes](#) for an example of work with Themes.

*Note:* View styles set for specific field(s) on a view have higher priority and override the theme color settings. To learn more about view styles, see the [section 4.4.3](#). You can also check Row scripts, [section 4.4.6](#)

## 4.18 SharePoint Integration

If you have SharePoint integrated with your CRM and you want users to have access to SharePoint documents from Mobile CRM application, you can enable and setup the SharePoint Integration in Section titled SharePoint in a mobile project.

First you need to enable the SharePoint Integration by checking the Enable box.

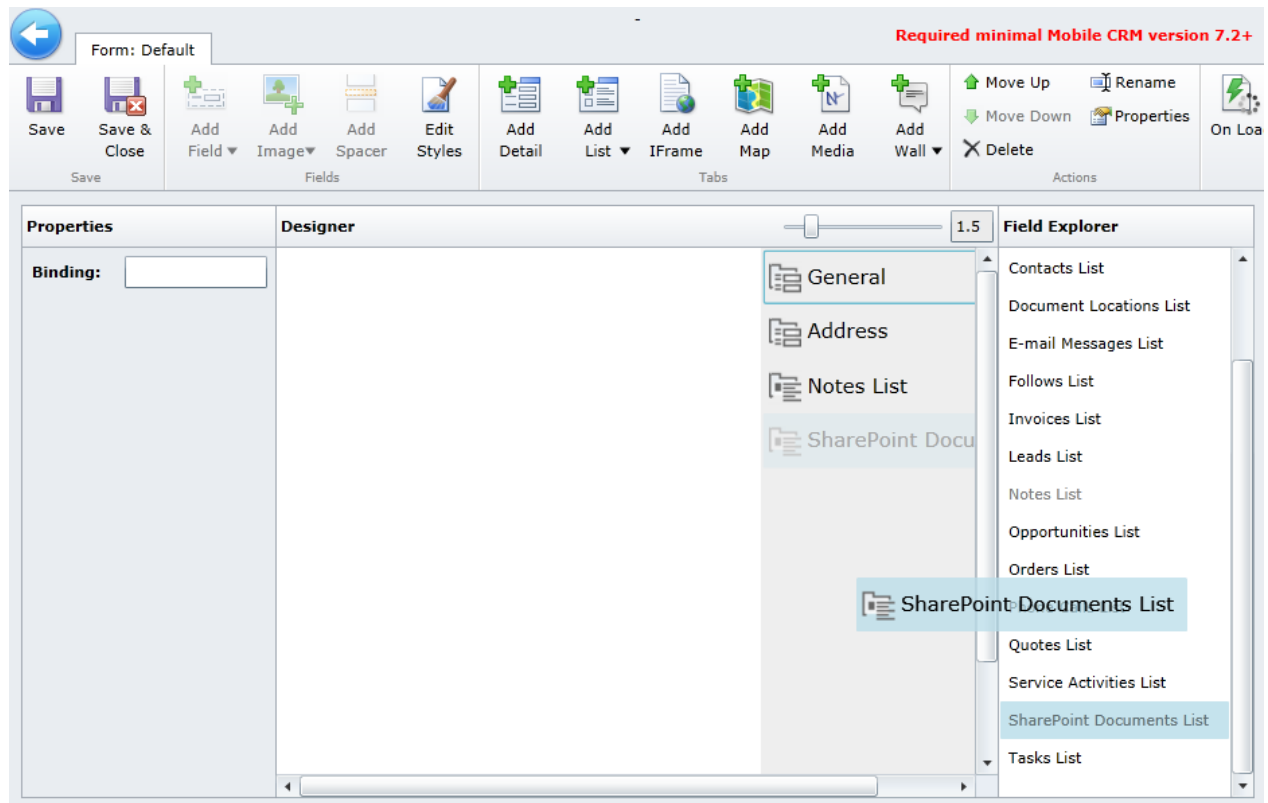
**Warning:** Enabling SharePoint Integration will also enable SharePoint Site entity in the mobile project. Please do not make any changes to this entity.

The screenshot displays the Mobile CRM configuration window. At the top, a red banner indicates "Required minimal Mobile CRM version 7.2+". The interface includes a navigation pane on the left with categories like Social, Branding, Auditing, Images, Offline HTML, Localizations, Configuration, Global Maps, Calendar, Events & Reminders, Color Theme, SharePoint (selected), Process Flow, and Entities. The main area is titled "SharePoint Integration" and contains the following text: "Requires the Dynamics CRM built-in SharePoint integration to be enabled. Check to enable SharePoint access from your mobile devices. To see the documents related to an entity, open the entity form and add the 'SharePoint Documents List'." Below this, there is a checkbox labeled "Enable:" which is checked. Further down, a note says "Setup your internal to external SharePoint URL mapping if needed." followed by input fields for "Internal:" and "External:".

If you have SharePoint on premise, you can define the internal and external SharePoint server URL.

Then you need to add SharePoint Documents List to entity forms, so that user can access SharePoint documents, associated to entity records.

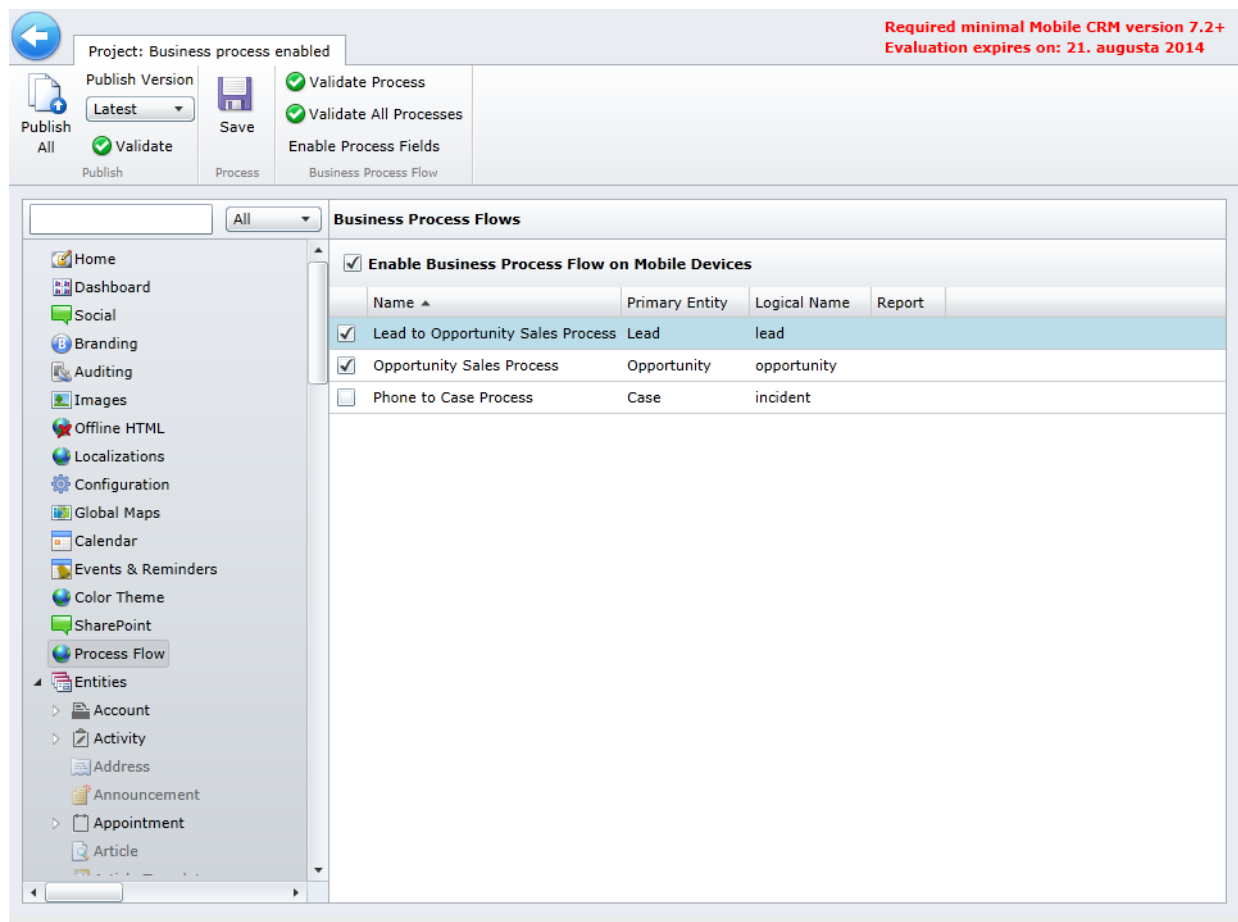
If user credentials are different for CRM and SharePoint, or you use CRM on-premise vs SharePoint online, or vice versa, your users can use the Mobile CRM's Setup to enter SharePoint credentials and deployment.



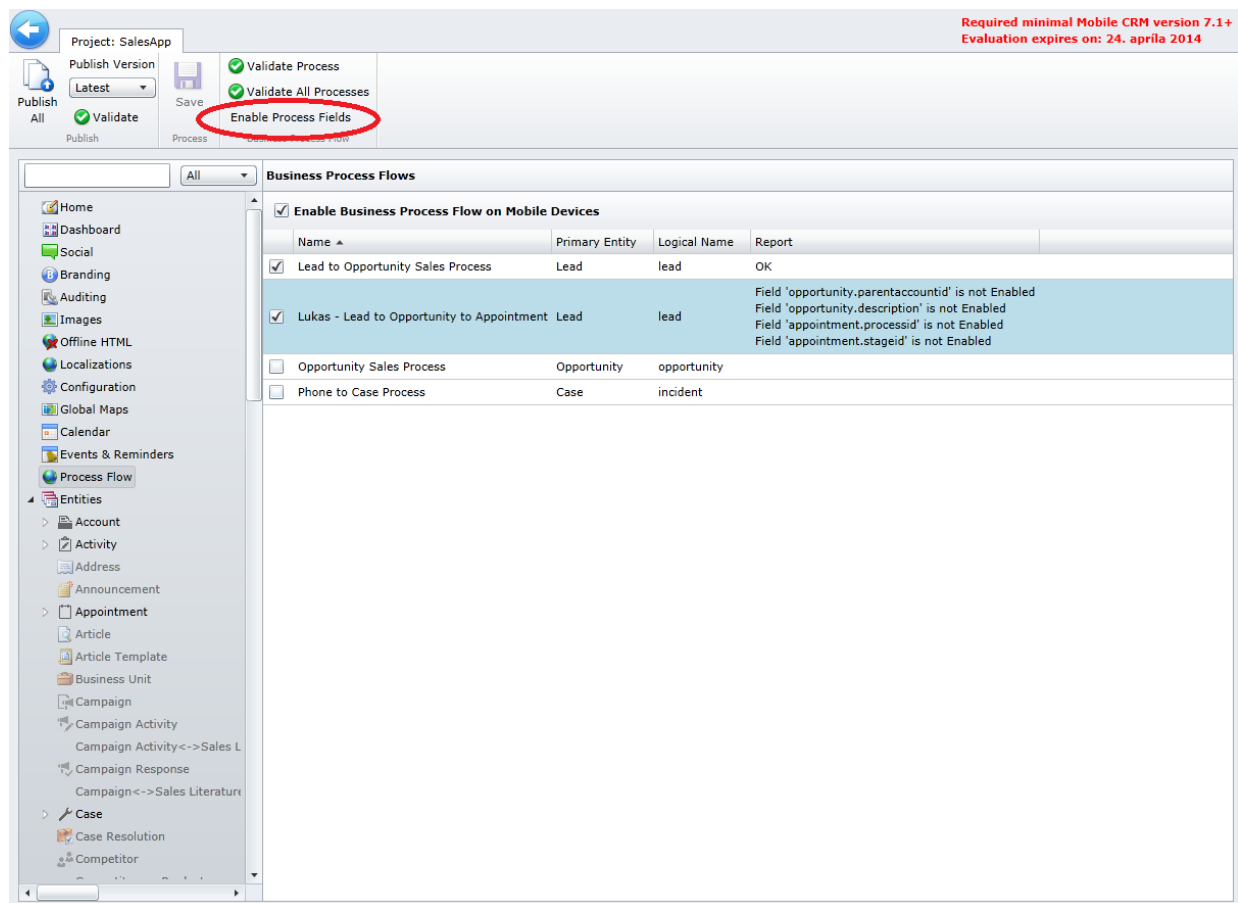
## 4.19 Business Process Flow (CRM 2013 and later)

In Process Flow section of the project, you can enable the use of Business Process Flow on Mobile CRM application.

First step is to enable “Enable Business Process Flow on Mobile Device” option. Then you will see a list of all Business Process Flows available on the CRM.



Then select those Business Process Flows, which you want to use on Mobile CRM application. Now you need to validate processes that will be used. You can either use Validate Process for selected process, or use Validate All Processes. This will check if fields, used by process are enabled on the mobile project. If you will see the list of fields, that are not enabled, you can simply use the Enable Process Fields button.



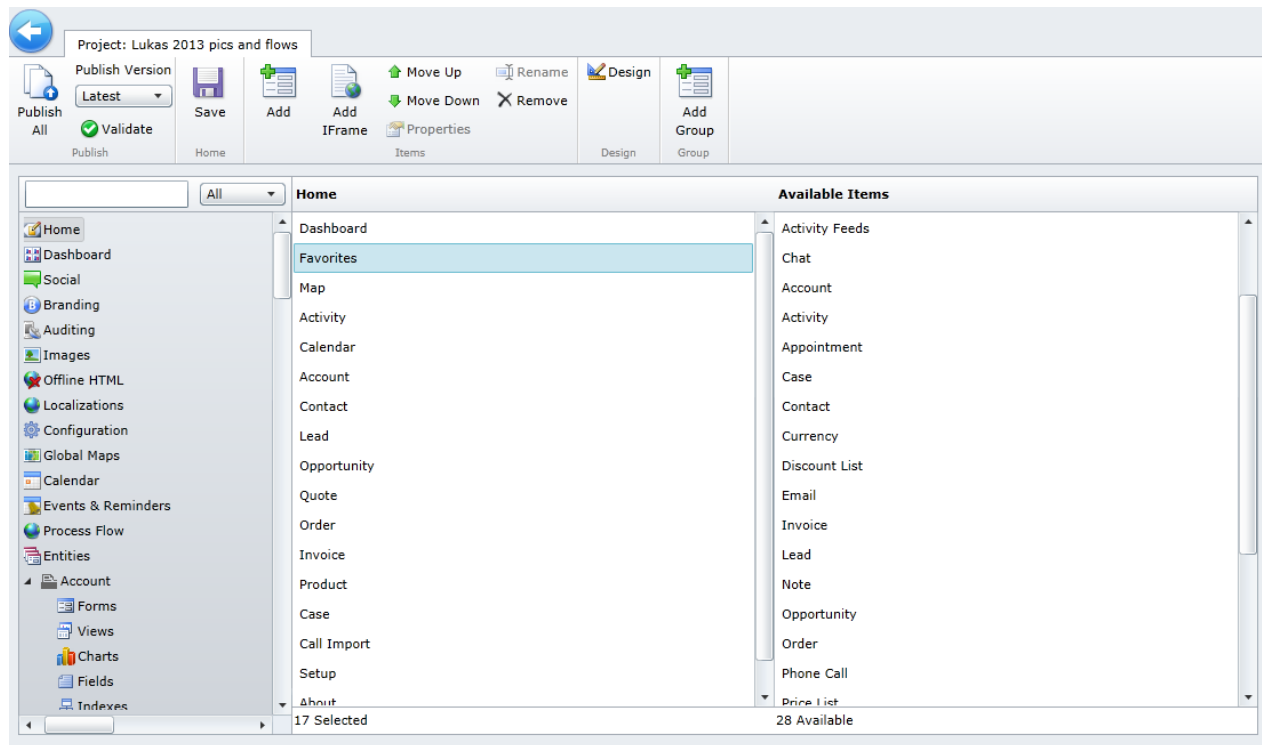
When OK is visible for each Business Process Flow, that you want to use, save changes.

Business process flow on Mobile CRM application is visualized by an additional tab, where the Business Process Flow can be followed.

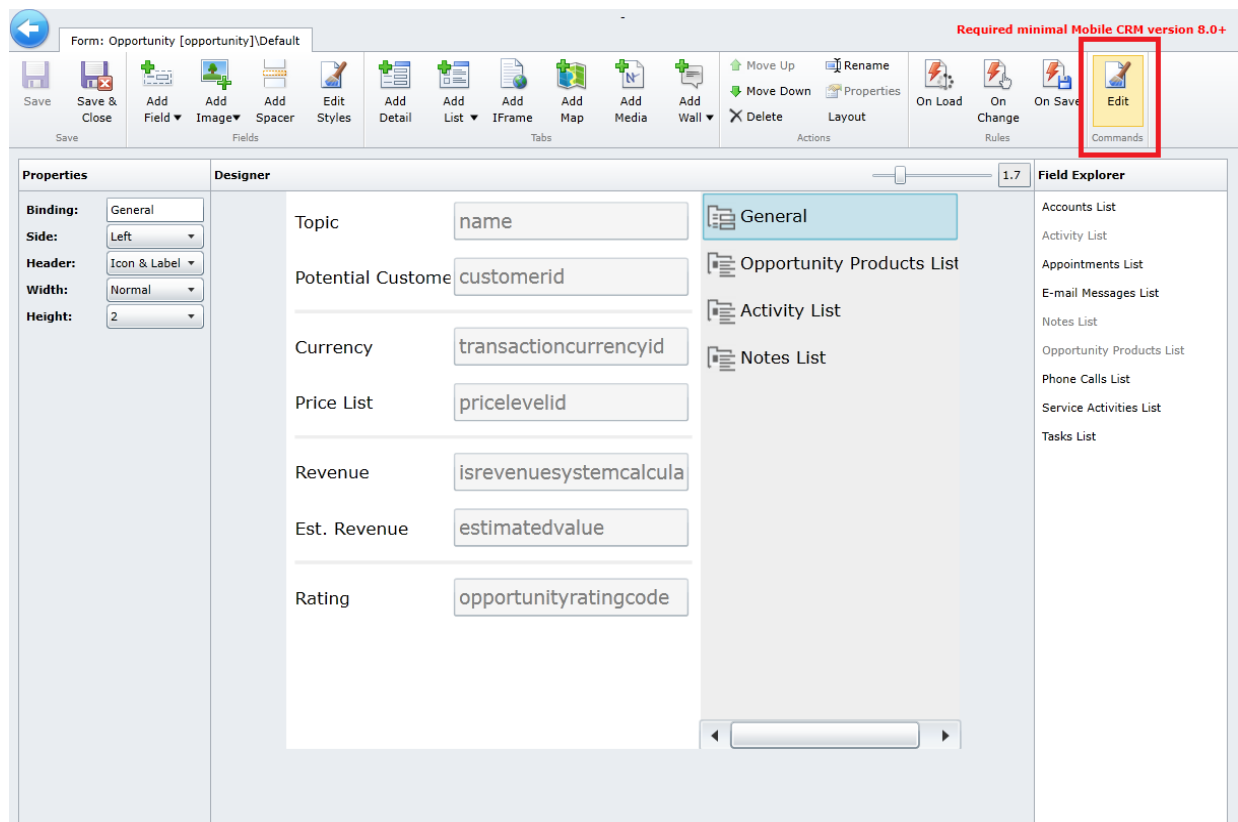
## 4.20 Favorites

To allow users to add records to the Favorites section on the Home screen, perform these two basic steps:

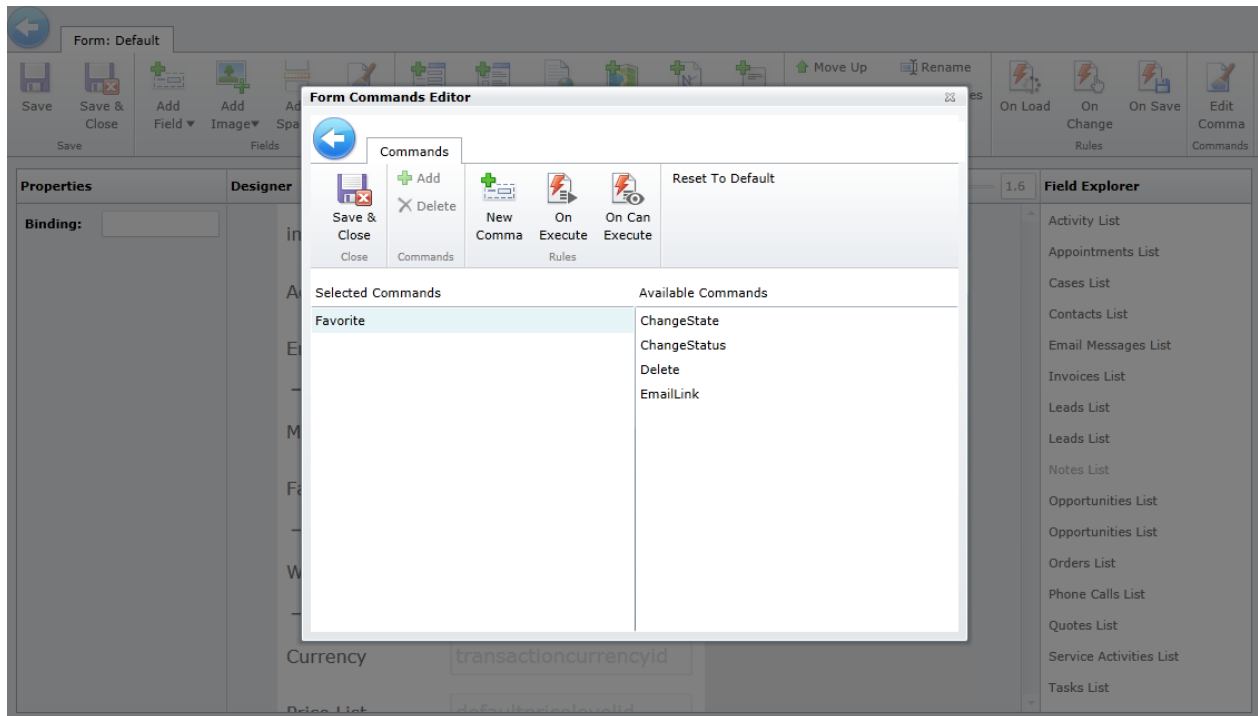
First, go to Home in Woodford project and add the Favorites item by dragging it from Available Items to Home column.



The next step is to go to Edit Form on the Entity, whose records you want users to be able to add to the Favorites list. On Edit Form click on the Edit Command button.



In the Form Commands Editor, drag the Favorite command from Available Commands to Selected Commands column.



Follow these steps on any other entity, whose records you want users to be able to add to the Favorites list.

Once you save the changes, publish the mobile project. Once users synchronize the Mobile CRM application, they will be able to pin records to their Favorites list by using the action button/command on Edit Form.

## 4.21 Email Integration

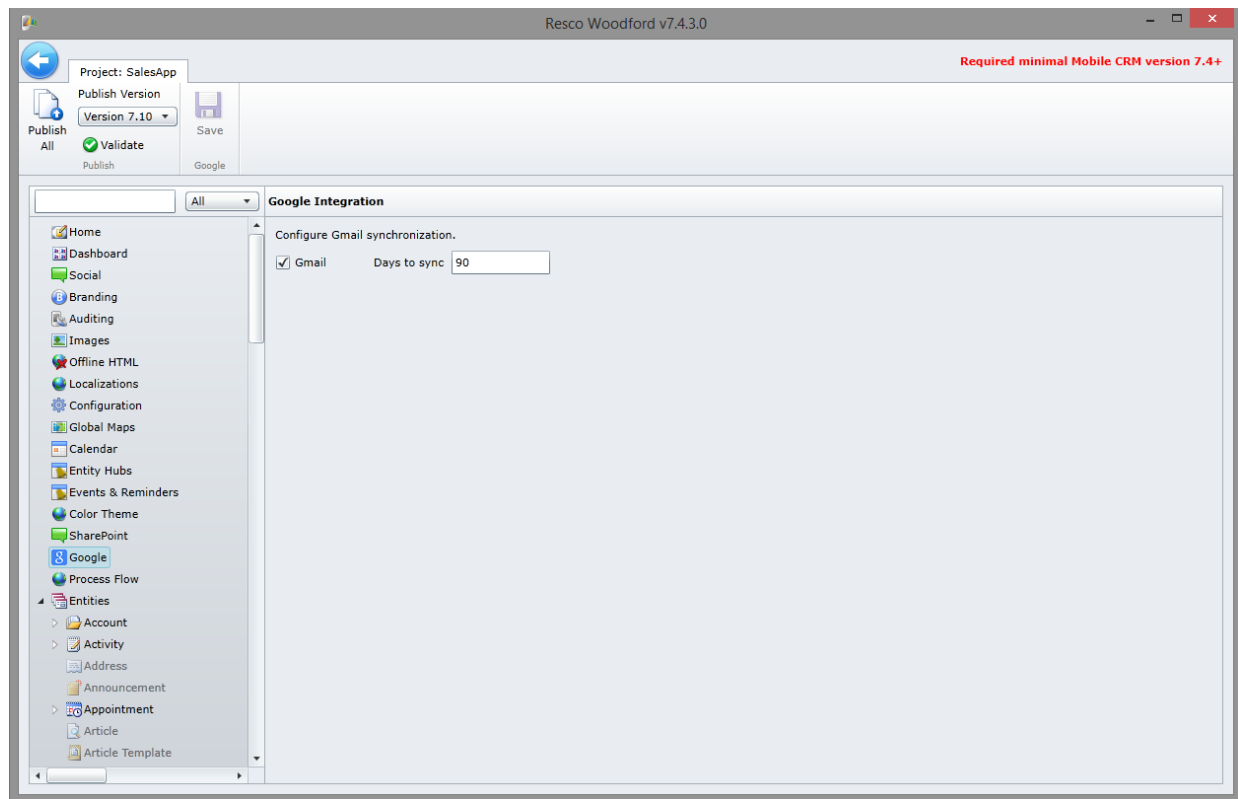
### 4.21.1 Google Gmail

Enabling Google integration in the project to allow users to link their google account to Mobile CRM application and to see their Gmail emails in mobile CRM, in E-mail activity entity, together with CRM emails.

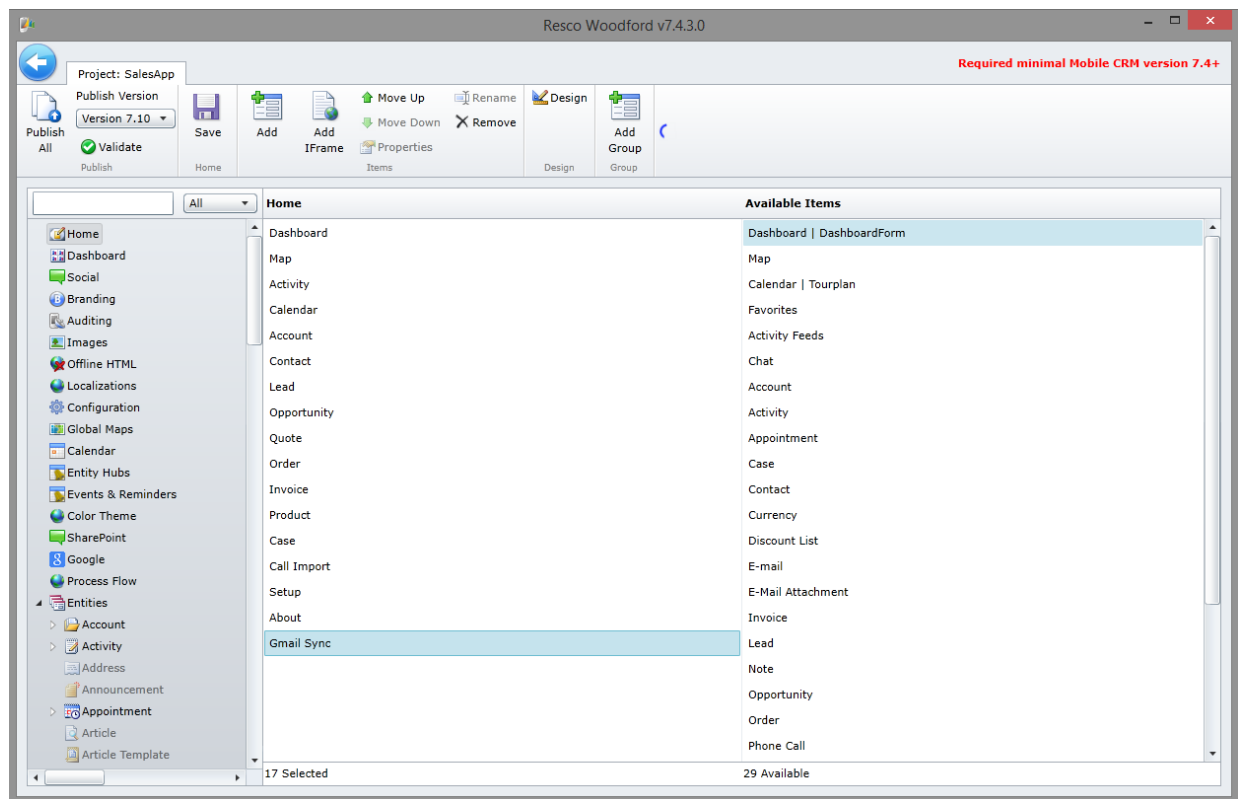
User can track their Gmail communication and save Gmail emails on the CRM.

To enable this, go to Google section of the project, and enable the Gmail.

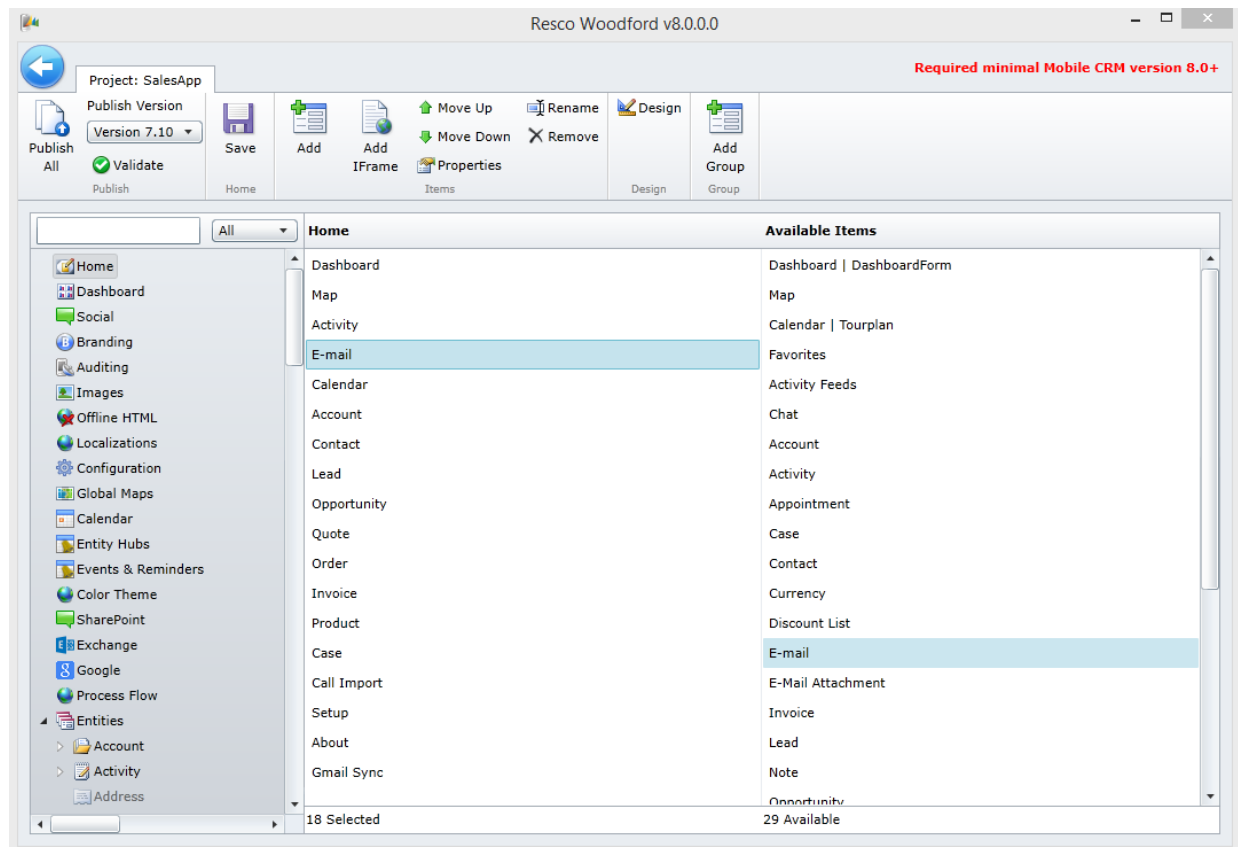
Setting the Days to Sync you specify how old emails should be synced and displayed in Mobile CRM app.



You can also add the Gmail Sync item to the Home screen, and using this item, user will synchronize only Gmail emails, so no need to synchronize all CRM data.



Or when you add the Email item on the Home section, users will be able to synchronize only Emails from all enabled integrations. There will be an additional synchronization button for Emails only.

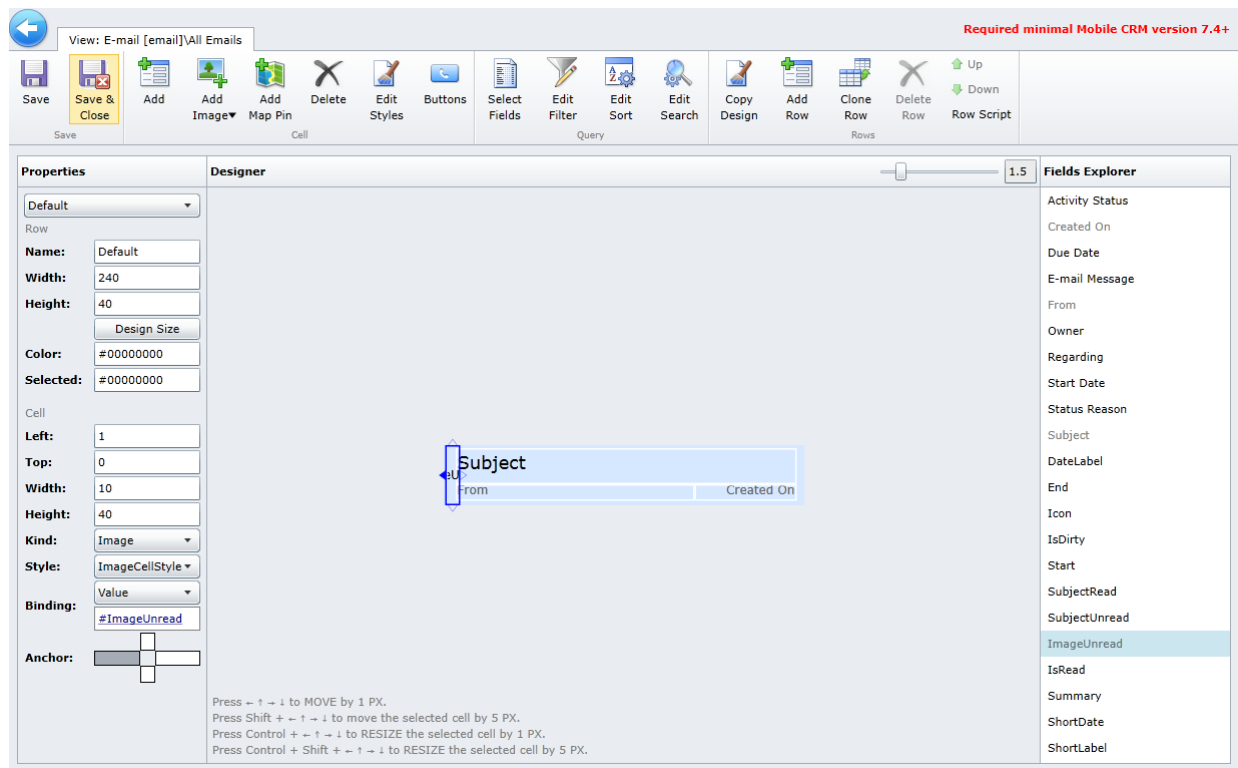


From user point of view, user has to go to Mobile CRM app's Setup and use the Google option. Then he needs to sign in using his Google (Gmail) credentials and allow Mobile CRM app to access his Gmail data, and synchronize.

It is also possible to make user know about the read/unread email, by adjusting the Email entity View

Just add the ImageUnread field to the View. An image is bind to this field and when the email is not read, a blue line is shown in the field.

User can set an email as read/unread in email's edit form, using commands.



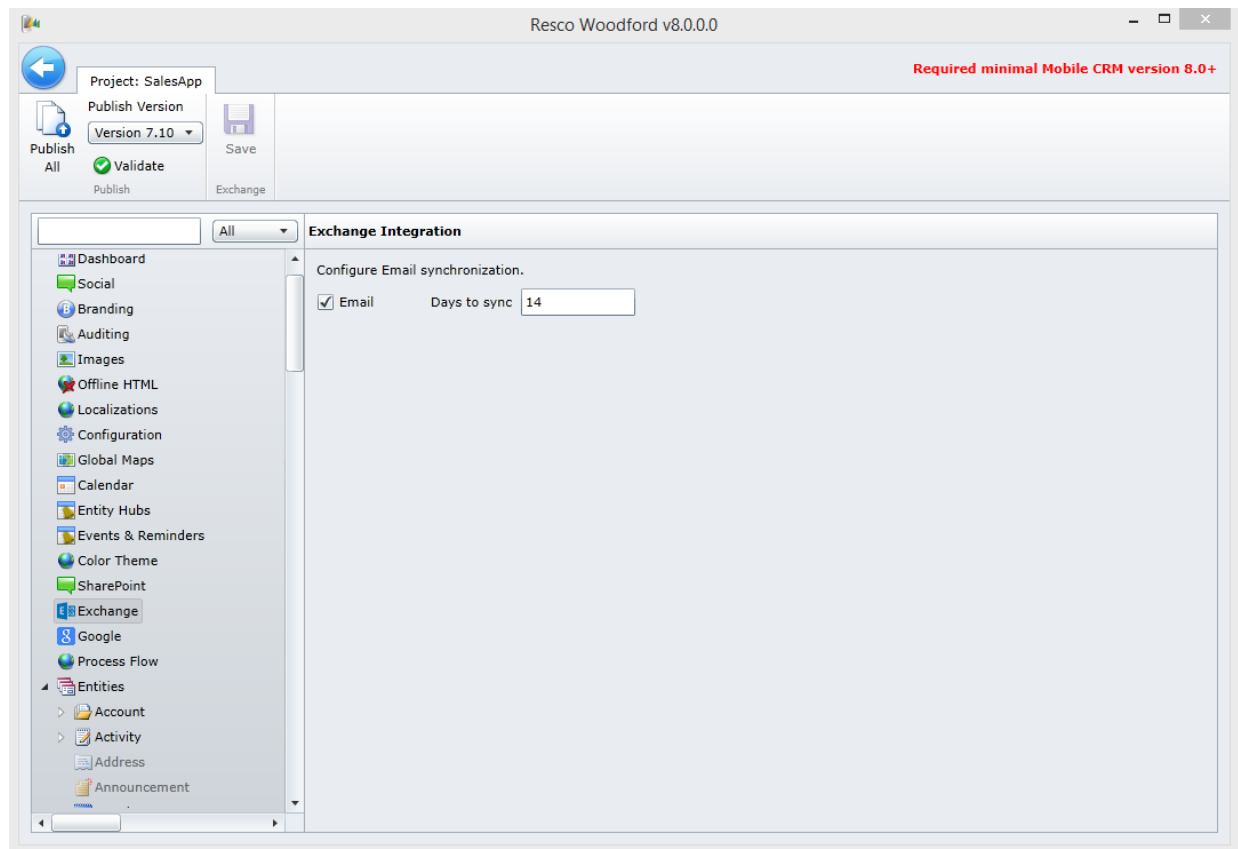
#### 4.21.2 Exchange email

Enabling Exchange integration in the project to allow users to link their Exchange account to Mobile CRM application and to see their Exchange emails in mobile CRM, in E-mail activity entity, together with CRM emails.

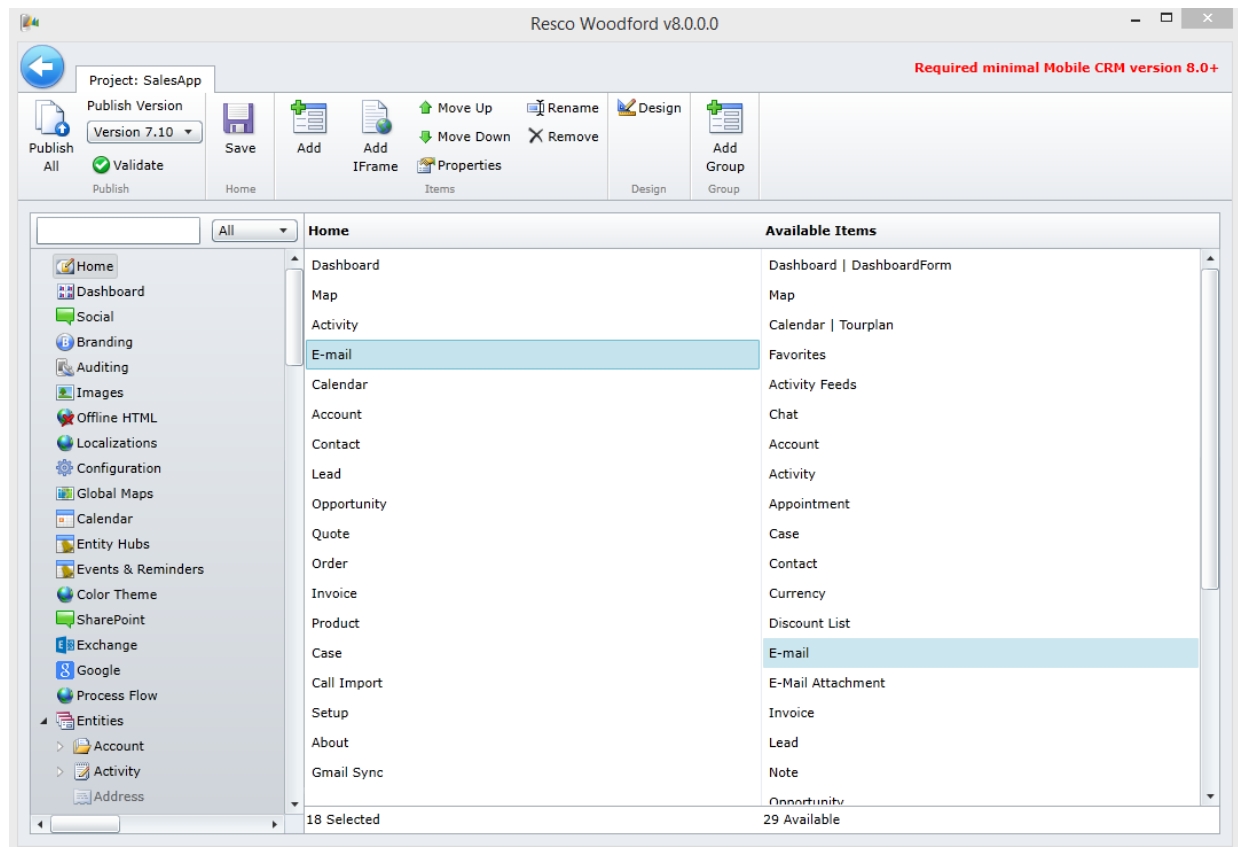
User can track their Exchange communication and save Exchange emails on the CRM.

To enable this, go to Exchange section of the project, and enable the Email.

Setting the Days to Sync you specify how old emails should be synced and displayed in Mobile CRM app.



When you add the Email item on the Home section, users will be able to synchronize only Emails from all enabled integrations. There will be an additional synchronization button for Emails only.

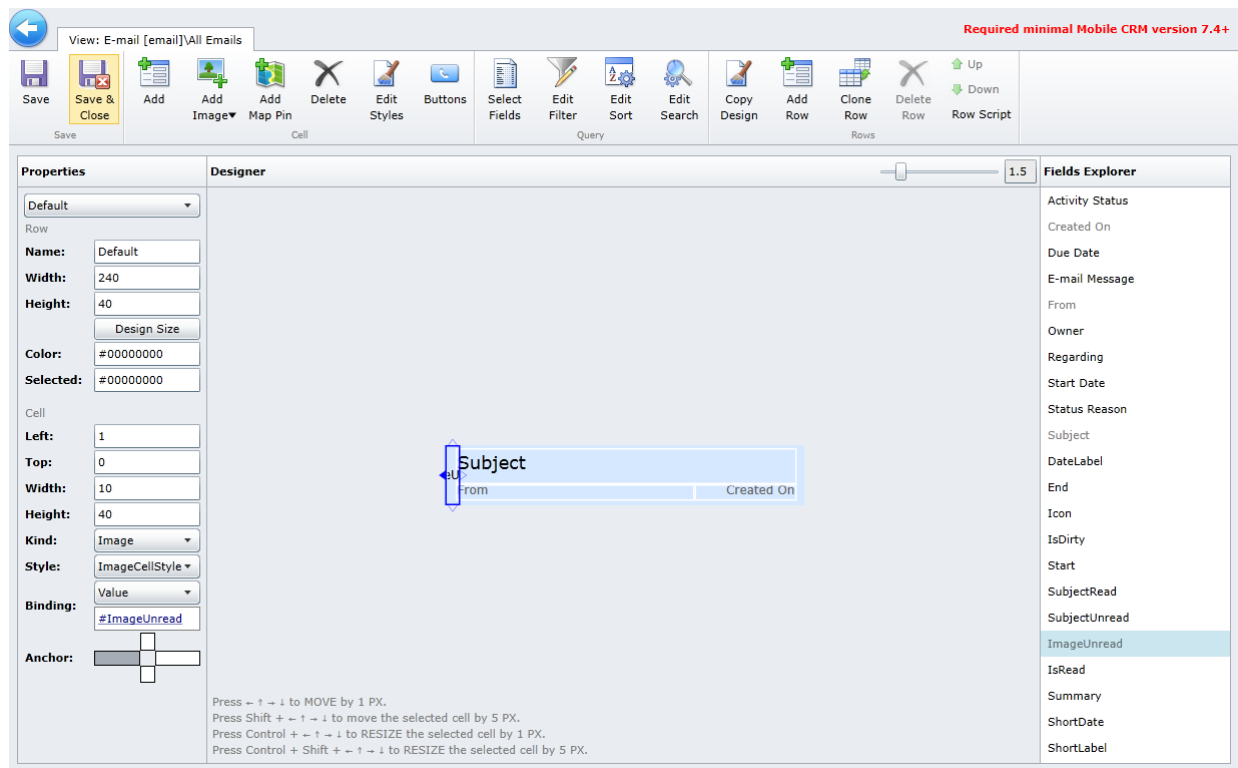


From user point of view, user has to go to Mobile CRM app's Setup and use the Exchange option. Then he needs to enter his Exchange Email address, password, and if the auto discovery will not work, also the URL of the Exchange server and User Name (with Domain if needed).

It is also possible to make user know about the read/unread email, by adjusting the Email entity View

Just add the ImageUnread field to the View. An image is bind to this field and when the email is not read, a blue line is shown in the field.

User can set an email as read/unread in email's edit form, using commands.

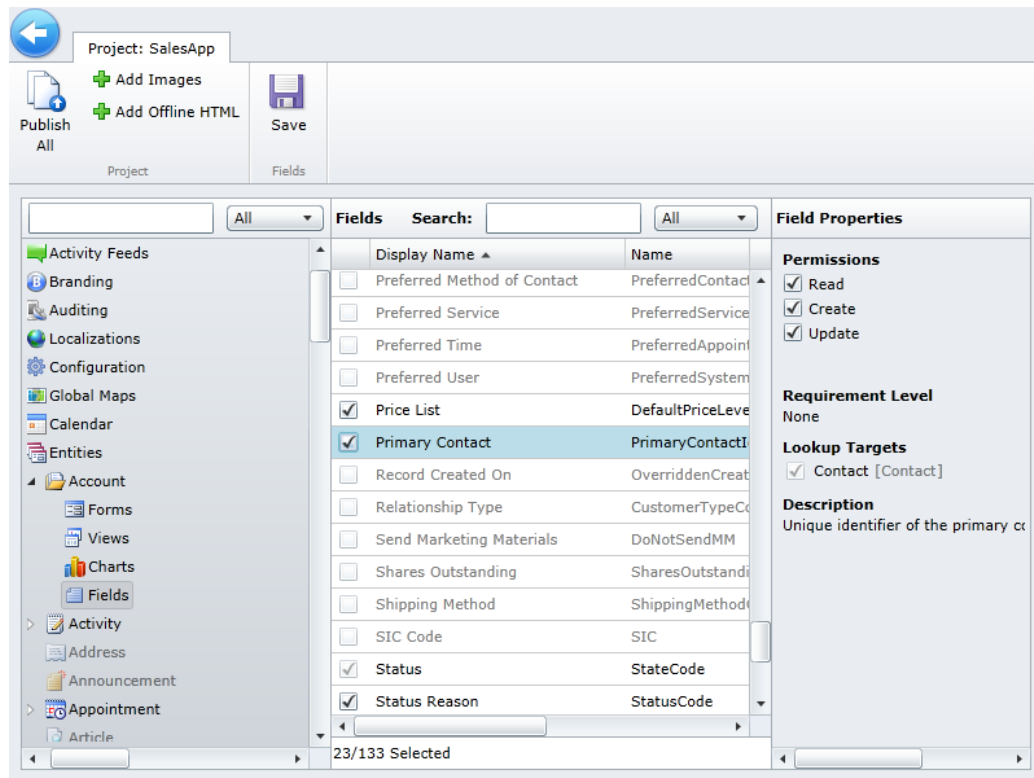


## 5 Advanced Topic

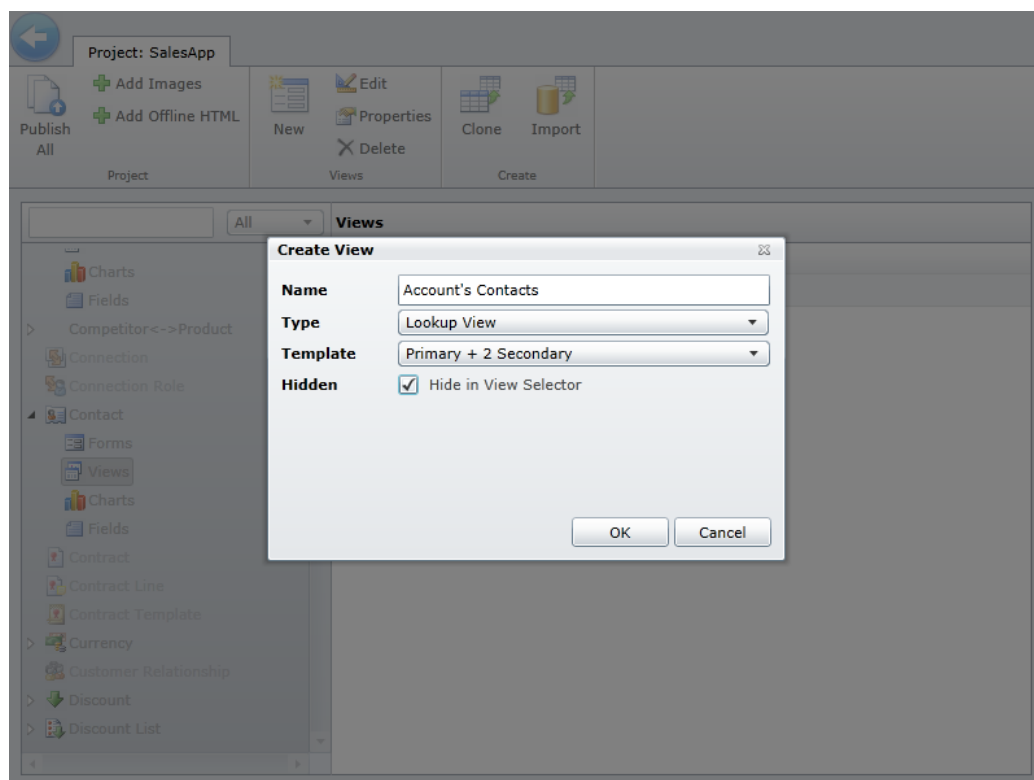
### 5.1 Filtered Lookup

Let say we want to add a primary contact field on the Account edit form, and be able to choose from the contacts that belong to a specific Account only, not to select it from all the contacts.

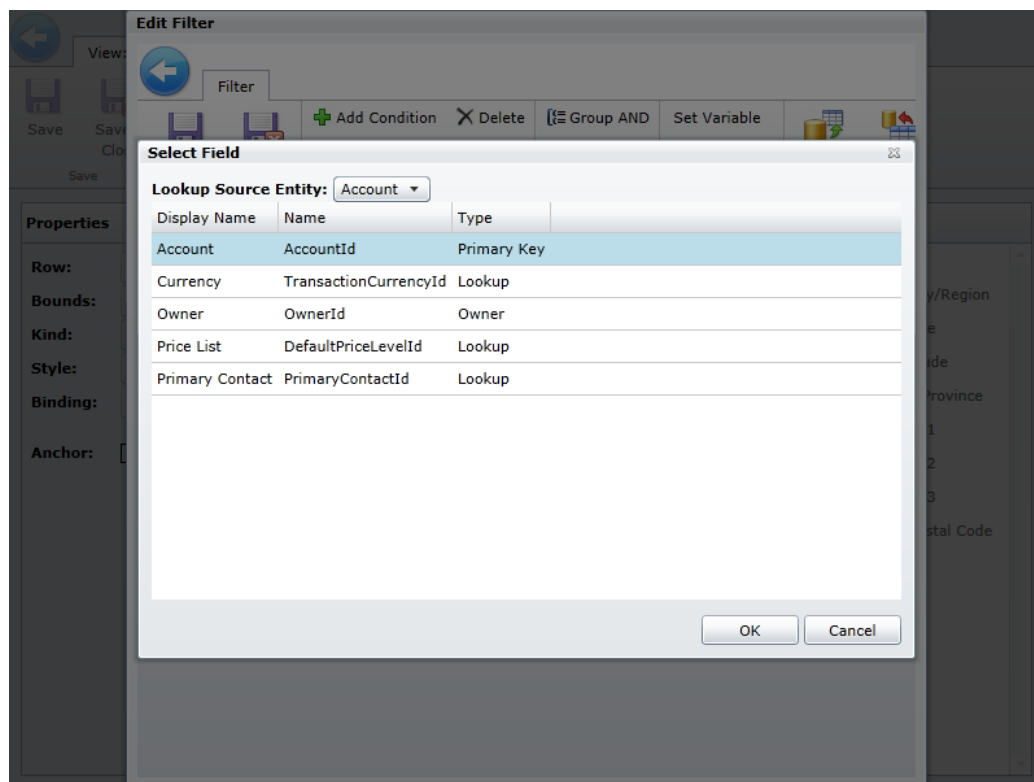
First we need to enable the Primary Contact field on the Account entity.



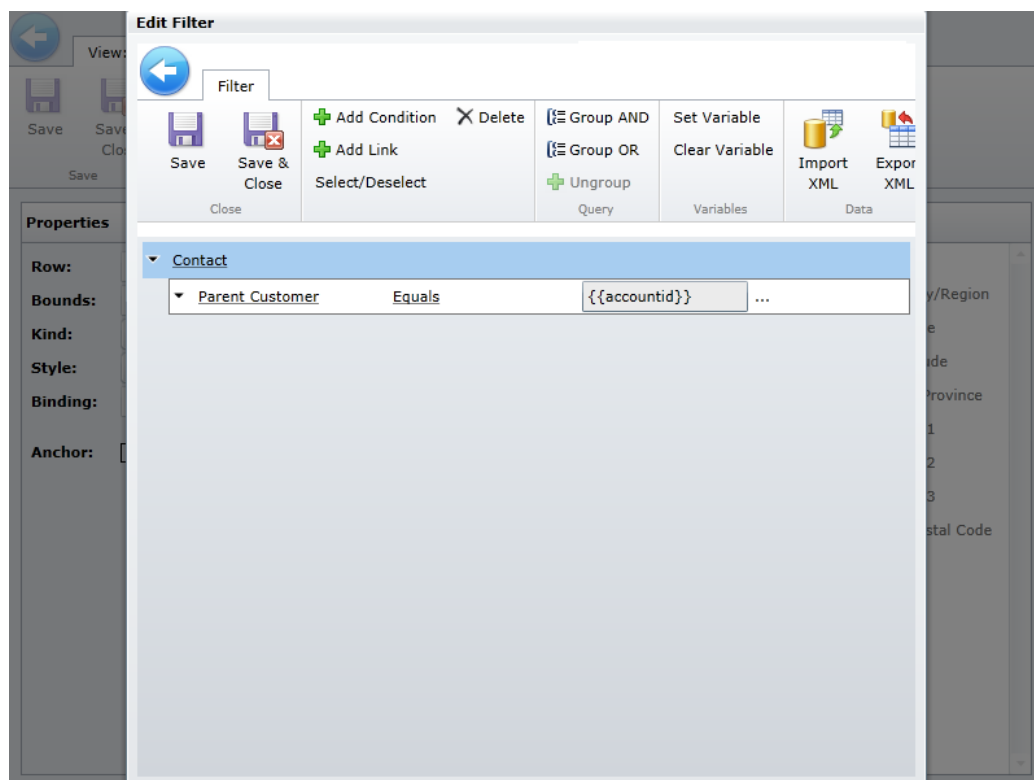
Next step is to create a new Lookup view for the Contact entity. Let's name it as Account's Contacts. We can also select the Hidden option, so that it will not be shown in the view selector in the Mobile CRM application. Add any desired fields to the Primary and Secondary fields.



Now open the Edit Filter, add a condition, select the Parent Customer field, click on the Enter Value field and click on Set variable on the toolbar (Set variable is only available on the Lookup View Filter). Now select the Account row with AccountId Primary Key.



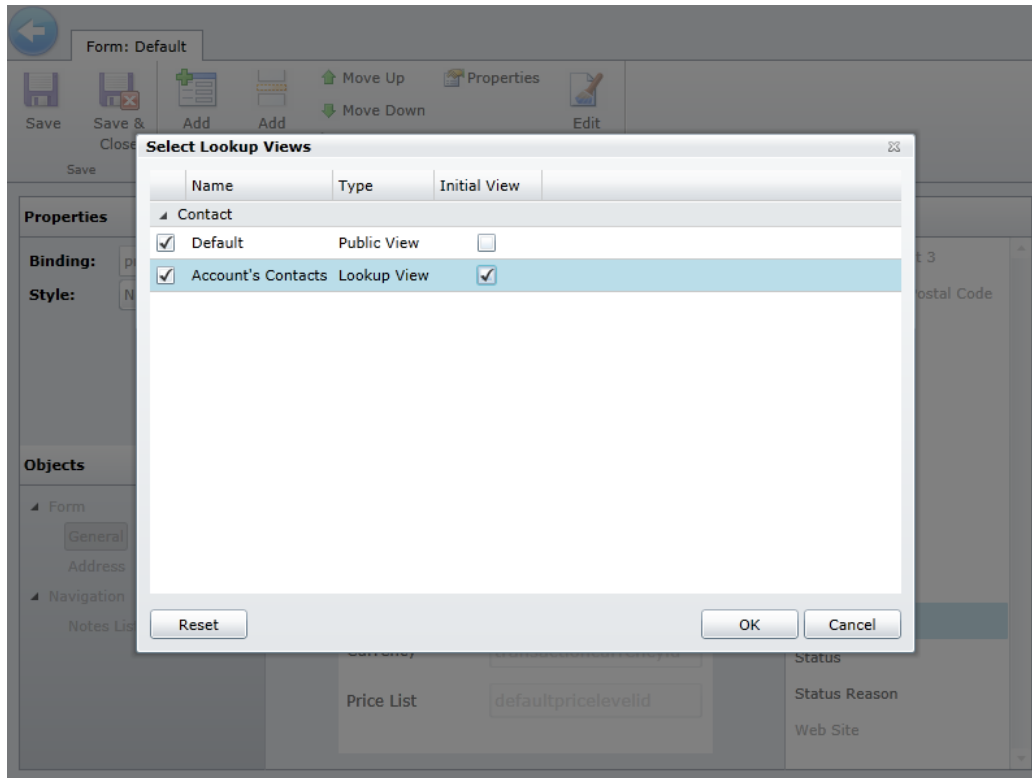
The condition should look like the one on the picture bellow.



Save and close the Filter, save and close the View, open the Account's Edit form and add the Primary Contact field to the form.

The screenshot displays the 'Form: Default' designer interface. The top toolbar includes icons for 'Save', 'Save & Close', 'Add', 'Add Spacer', 'Move Up', 'Move Down', 'Delete', 'Properties', and 'Edit Styles'. The main workspace is divided into three panels: 'Properties', 'Designer', and 'Field Explorer'. The 'Properties' panel shows 'Binding: primarycontactid' and 'Style: Normal'. The 'Designer' panel shows a form layout with fields: 'Account Name' (name), 'E-mail' (emailaddress1), 'Primary Contact' (primarycontactid), 'Main Phone' (telephone1), 'Fax' (fax), 'Web Site' (websiteurl), 'Currency' (transactioncurrencyid), and 'Price List' (defaultpricelevelid). The 'Field Explorer' panel lists various fields, with 'Primary Contact' highlighted. The 'Objects' panel on the left shows a tree structure with 'Form', 'General', 'Address', 'Navigation', and 'Notes List'.

Now click on the Properties. Check the Account's Contact Lookup view to be available for the Lookup and set it as default view for Lookup.

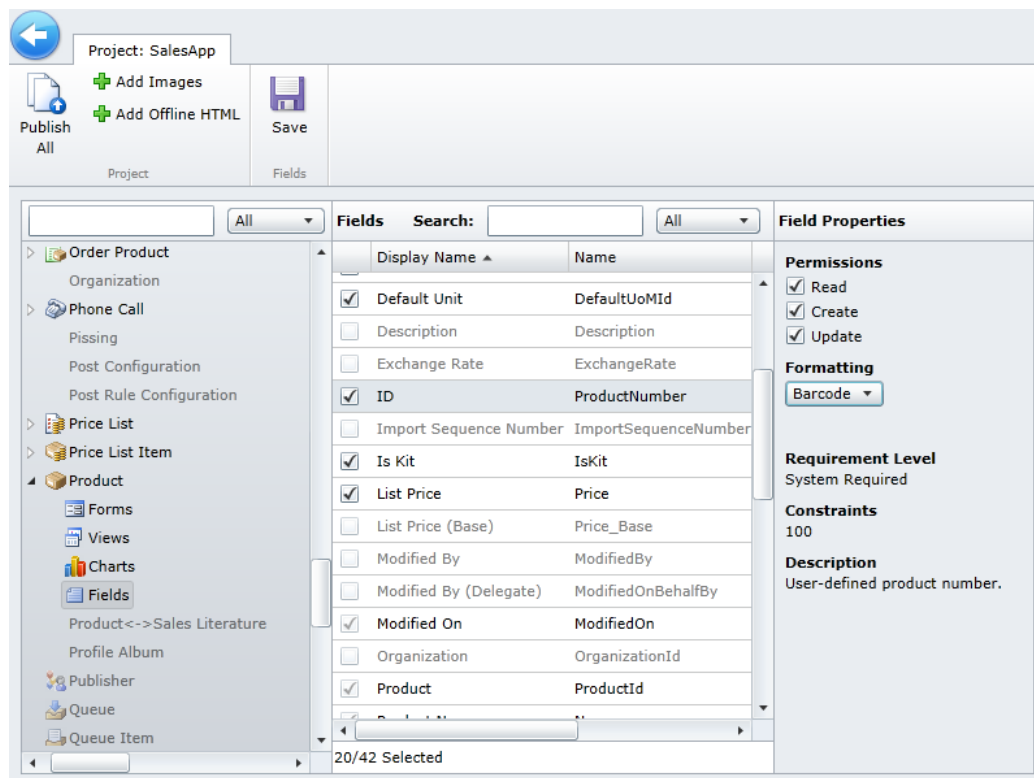


When you now save the form and publish the project, when you now attempt to choose the Primary Contact for an Account, you will only have to choose from the Account's contacts, not from all contacts. You will still have the possibility to change the Lookup view to the default one with all contacts, unless you uncheck the Default View from the Primary Contact Properties on the above picture.

**Tip:** It is possible to create a filter directly for the specific lookup (also for associated list) on the form. For more information see the [Advanced filtering](#).

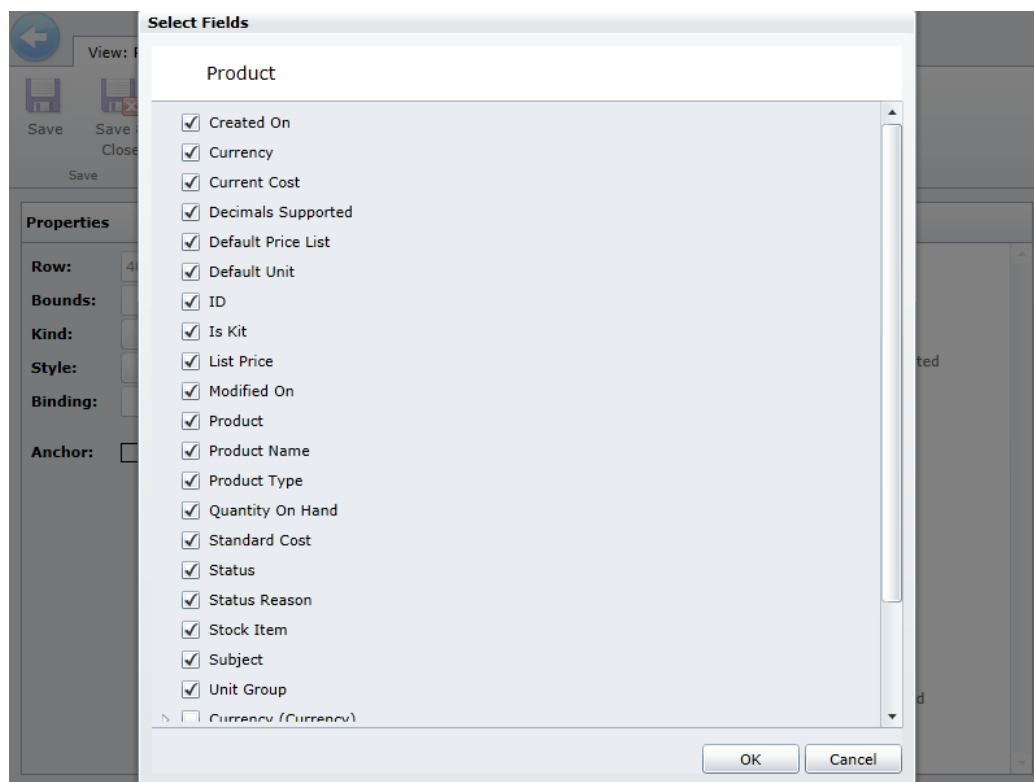
## 5.2 Barcode scanner functionality

Using Woodford, you can enable bar code scanner functionality for lookup views and fields in forms. You can set any text field's Formatting (Single or Multiple line of text) to barcode.



Then you need to enable this field for the lookup view (or the default view that is used for the lookups) using Select Fields on the View Toolbar.

Fields that have been formatted to Barcode format when put into a form will have an action button which will start the scanning process.



Then, when the lookup is called (choosing the lookup field from the Edit Form that brings the Lookup view), you will notice a bar code scanner icon next to the Search. When you choose this icon, the camera starts and when you focus it on the bar code or QR code, it recognizes the value and compares the value with the field set to bar code formatting. If the value is found, the record is selected.

*Note: Please note, that the screenshots only refer to the steps you need to make, the field that needs to be formatted and enabled should be the one that is used for actual bar code scanning.*

## 5.3 Examples of advanced options

### 5.3.1 List and Form Images

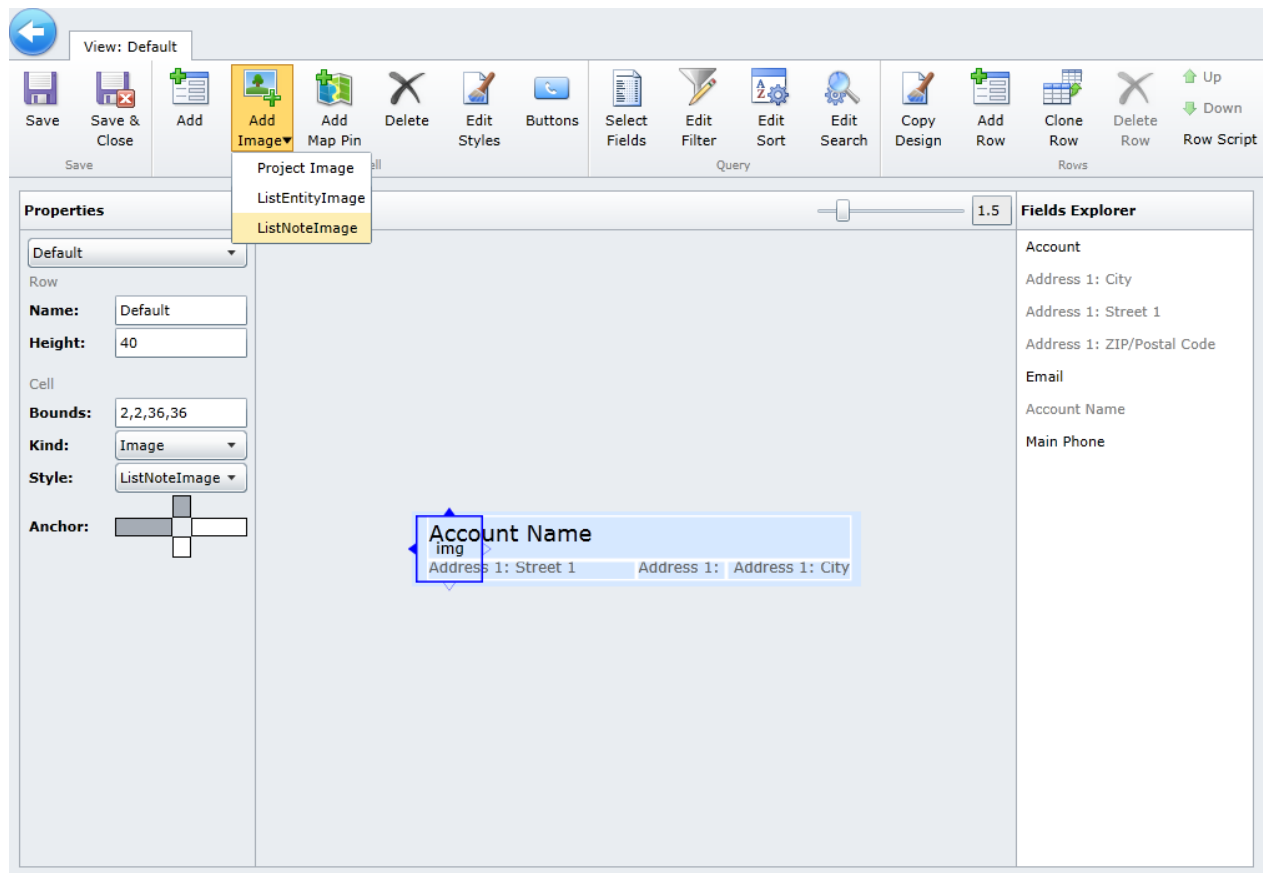
*Tip: To learn more about what List and Form images represent, please check this [Blog Post](#). You can also check the example in [Blog Post](#) about the List and Form images Woodford setup*

#### 5.3.1.1 Available for CRM 2011 and 2013

##### 5.3.1.1.1 List/View picture from Note

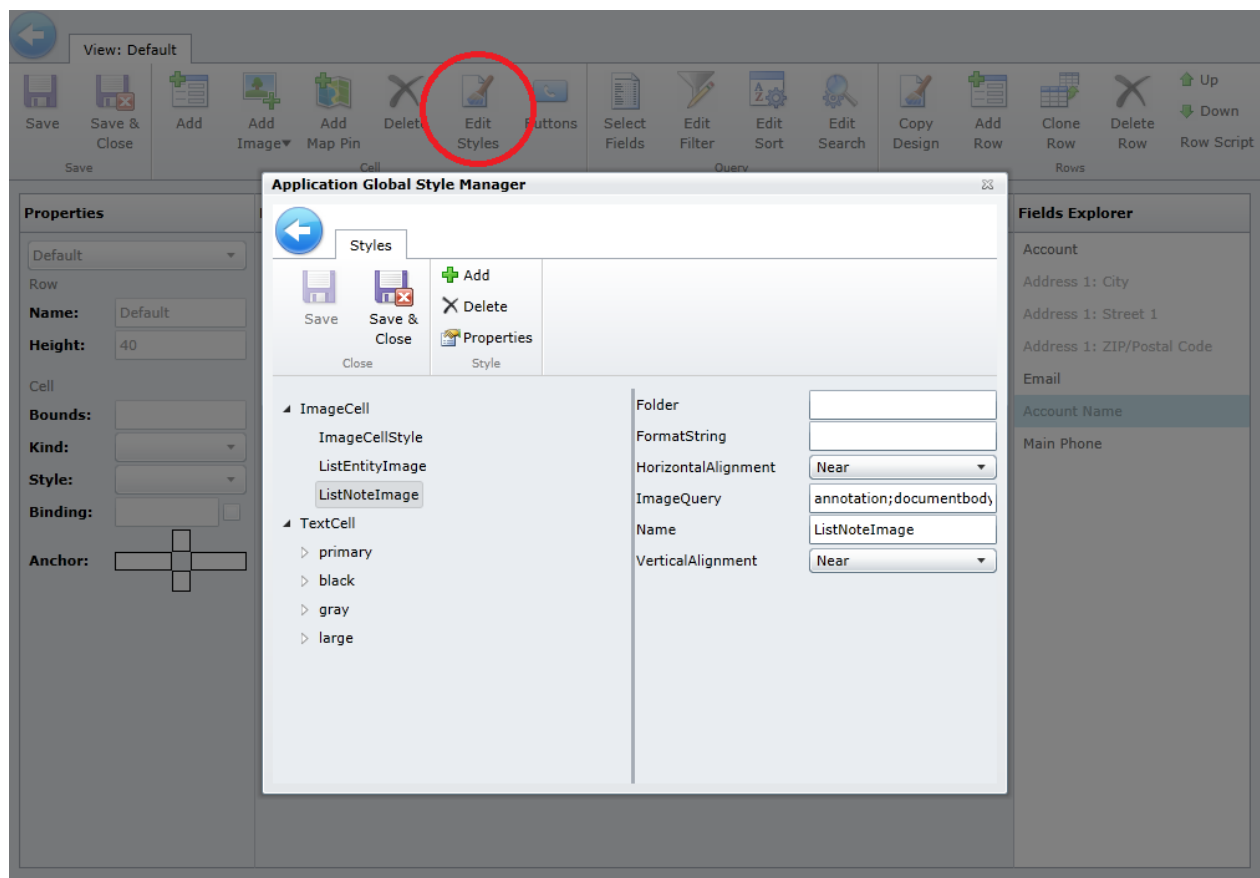
You can add pictures that are saved as Note attachments to a View and/or on an Edit Form. This way you can show e.g. a contact's photo or product pictures on Views or Edit Forms.

For showing pictures on a View: while you are on a view (e.g. a Public View for entity Accounts), use the Add Image Option and select ListNoteImage. This will add a picture item on the view designer.

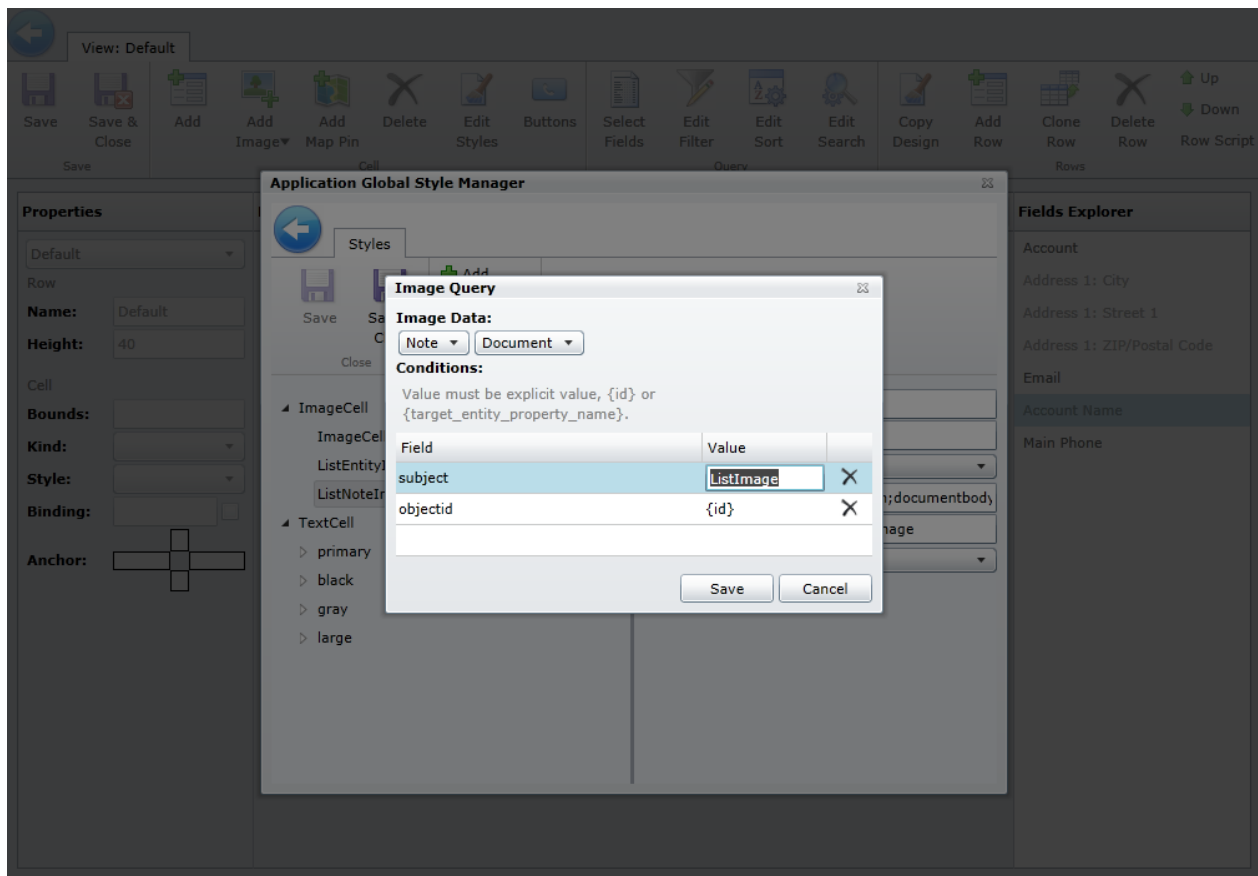


Now you need to adjust the size of other fields, otherwise they will be overlaid by the picture.

By default, the Note, where the View picture should be attached, needs to have subject name exactly "ListImage". This can be changed In the View Style Manager. Click on Edit Styles button, then on the ListNoteImage. To change the Subject name of the Note, click on ImageQuery field.

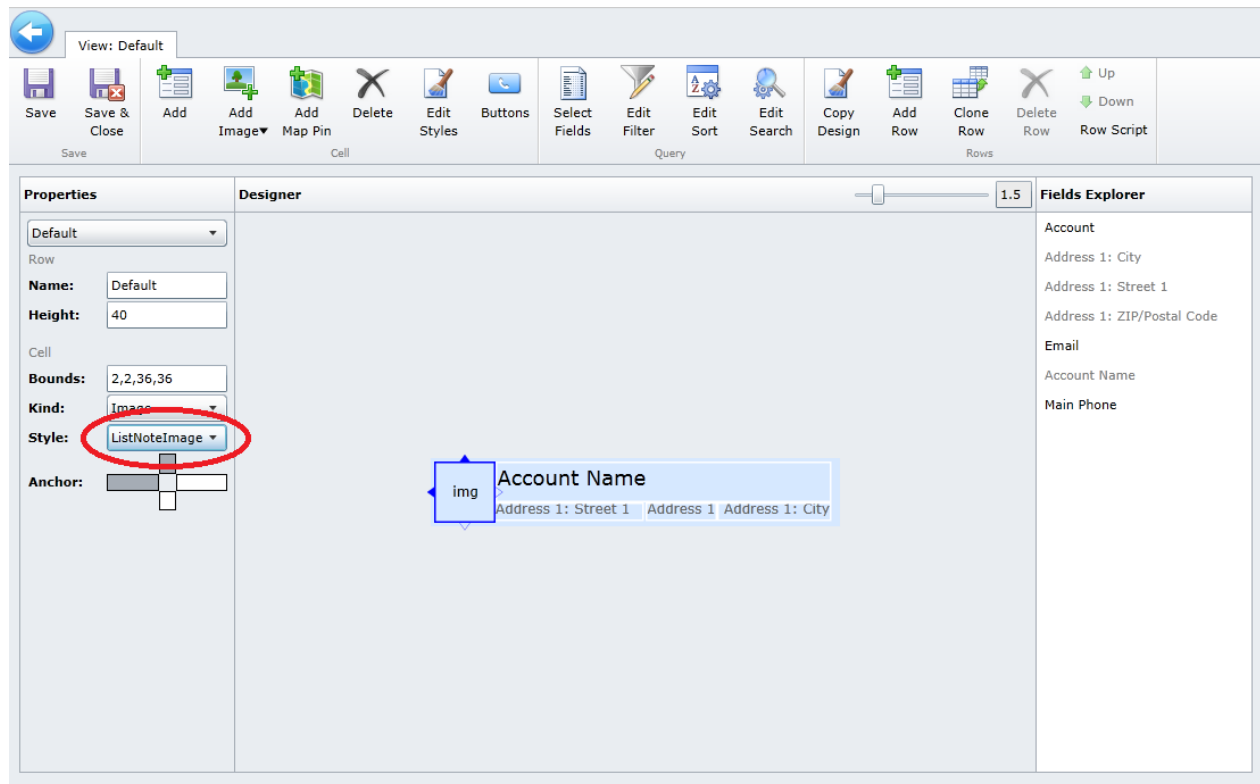


By changing the Subject field you will set the name of the Note, from where the picture will be taken.



You can also create more ListNoteImage styles to use different notes for different Views.

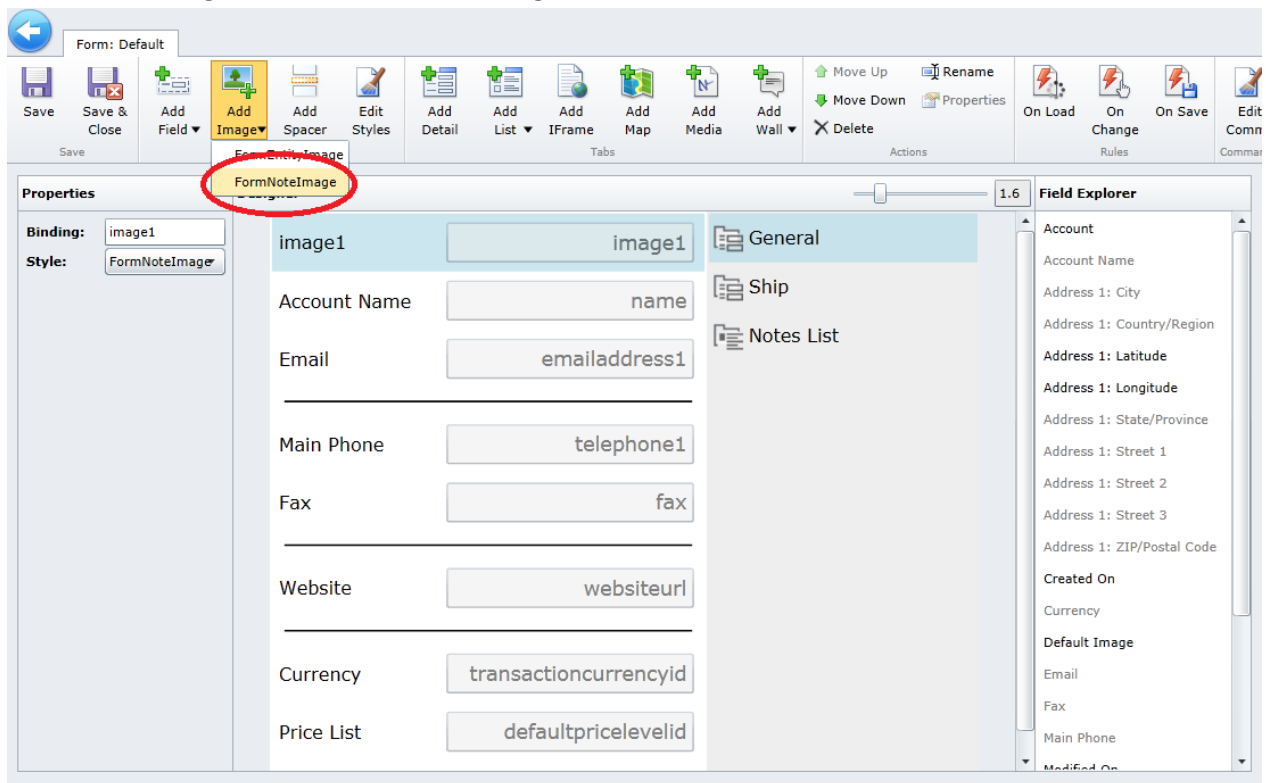
If you have more ListNoteImage styles, make sure you set the correct one for the img item.



Now, save these changes, publish the mobile project and synchronize the Mobile CRM application. Open any Account record in the app, create an associated Note with Subject "ListImage" and attach/capture a picture. This picture will be used on the list for this record.

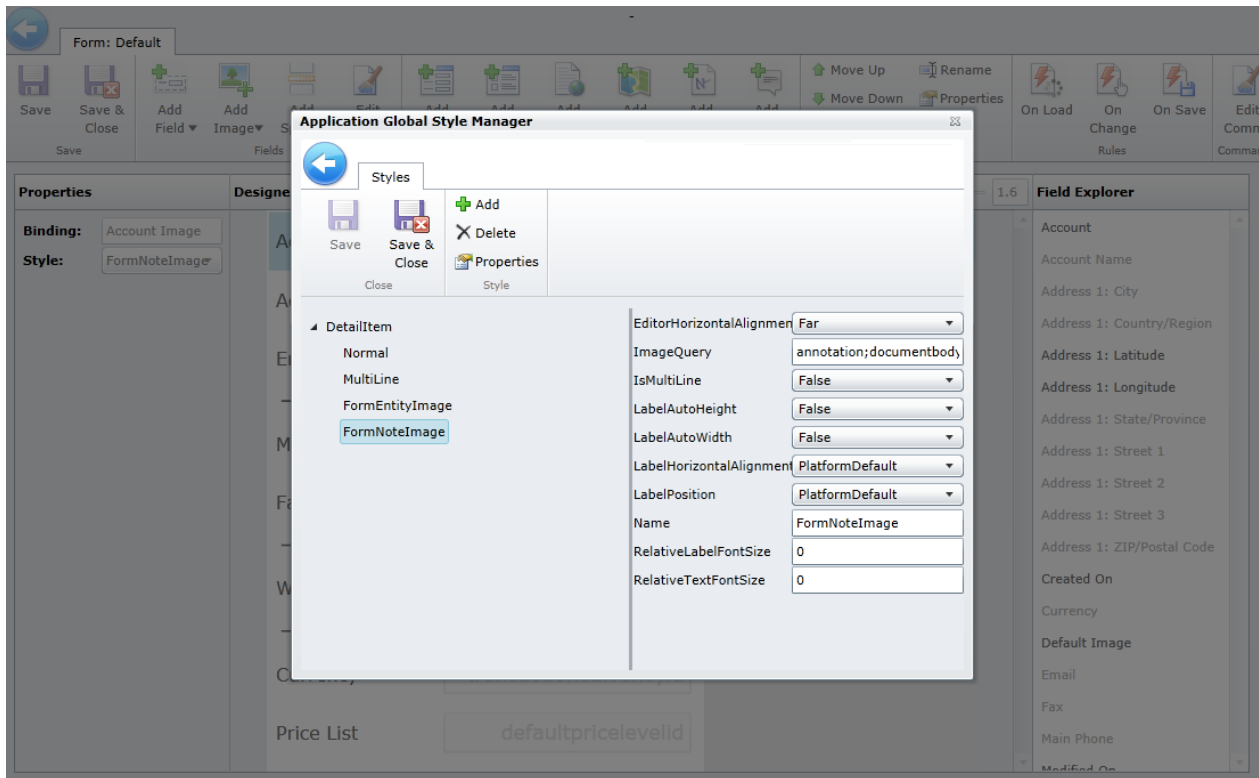
#### 5.3.1.1.2 Edit Form picture from Note

You can add a picture for Edit Form in a similar way as on a View. When on e.g. an Account edit form, click on Add Image and select FormNotelImage.

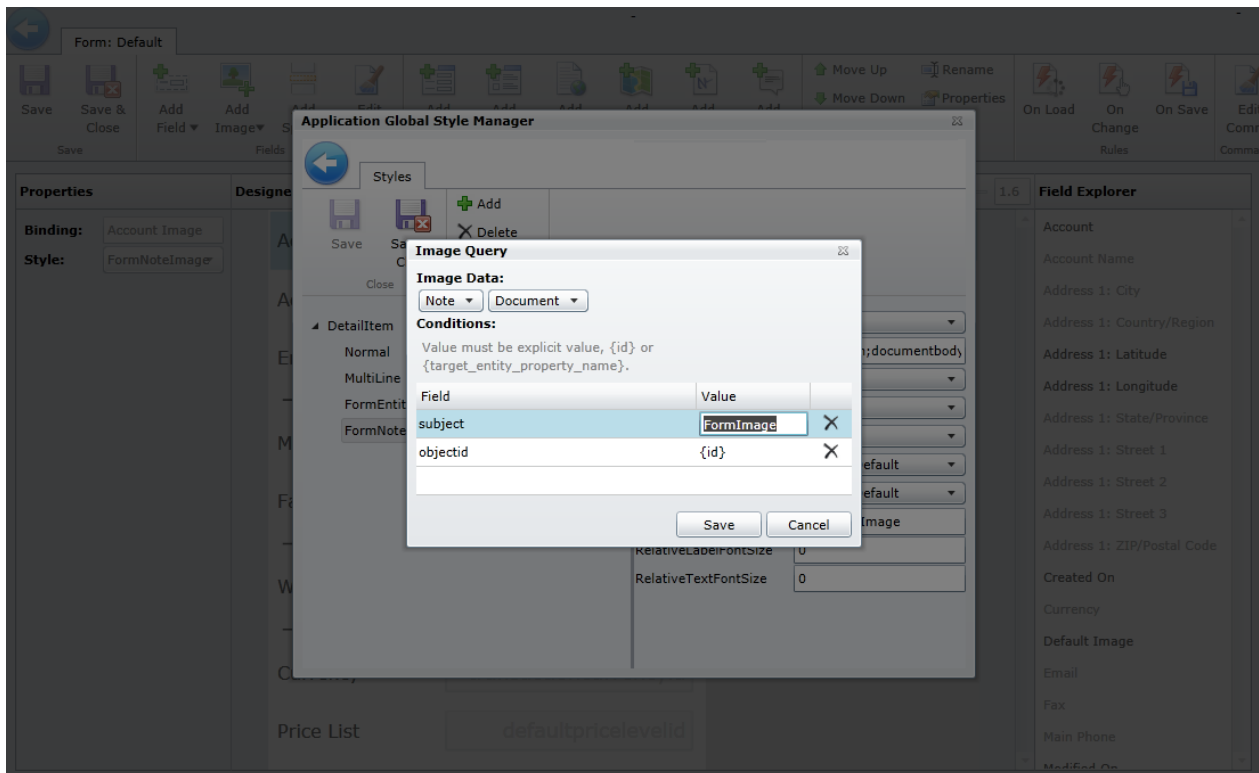


You will notice a new field – image1 on the Form. You can rename it using the Binding field (e.g. Account Image). To apply the change, click on the image field item.

By default, the Note, where the Edit Form picture should be attached, needs to have a subject name exactly “FormImage”. This can be changed In the Style Manager. Click on Edit Styles button, then on the FormNotelImage. To change the Subject name of the Note, click on ImageQuery field.



By changing the Subject field you will set the name of the Note, from where the picture will be taken.



You can also create more FormNoteImage styles, and use different notes for different entities.

If you have more FormNoteImage styles, make sure you set the correct style for the image1 (or the renamed) item.

*Note: If you set the same Note Subject for List and Form view, the image attached to a simple Note will be used for both, View and Form images.*

### 5.3.1.2 Available for CRM 2013 only

In CRM 2013, there is a specific picture field, where you can store images of Accounts, Contacts, Leads, etc. If you use this kind of picture field, you can use it also on Mobile CRM application.

First you need to make sure the Entity Image is enabled for synchronization. I will use the Contact entity in this example.

The screenshot shows the CRM 2013 Field Properties window. The left pane shows the 'Contact' entity selected. The middle pane lists fields, with 'Entity Image' selected. The right pane shows the properties for the 'Entity Image' field.

| Display Name                                      | Name                   | Type                | Permissions |
|---------------------------------------------------|------------------------|---------------------|-------------|
| <input type="checkbox"/> Do not allow Phone Calls | DoNotPhone             | Two Options         | RCU         |
| <input type="checkbox"/> Education                | EducationCode          | Option Set          | RCU         |
| <input checked="" type="checkbox"/> Email         | EMailAddress1          | Single Line of Text | RCU         |
| <input type="checkbox"/> Email Address 2          | EMailAddress2          | Single Line of Text | RCU         |
| <input type="checkbox"/> Email Address 3          | EMailAddress3          | Single Line of Text | RCU         |
| <input type="checkbox"/> Employee                 | EmployeeId             | Single Line of Text | RCU         |
| <input checked="" type="checkbox"/> Entity Image  | EntityImage            | Image               | RCU         |
| <input type="checkbox"/> Entity Image Id          | EntityImageId          | Unique Identifier   | R--         |
| <input type="checkbox"/> Exchange Rate            | ExchangeRate           | Decimal Number      | R--         |
| <input type="checkbox"/> External User Identifier | ExternalUserIdentifier | Single Line of Text | RCU         |
| <input checked="" type="checkbox"/> Fax           | Fax                    | Single Line of Text | RCU         |
| <input checked="" type="checkbox"/> First Name    | FirstName              | Single Line of Text | RCU         |
| <input type="checkbox"/> FTP Site                 | FtpSiteUrl             | Single Line of Text | RCU         |
| <input checked="" type="checkbox"/> Full Name     | FullName               | Single Line of Text | R--         |
| <input type="checkbox"/> Gender                   | GenderCode             | Option Set          | RCU         |
| <input type="checkbox"/> Government               | GovernmentId           | Single Line of Text | RCU         |
| <input type="checkbox"/> Has Children             | HasChildrenCode        | Option Set          | RCU         |

**Field Properties**

**Permissions**

- ☒ Read
- ☒ Create
- ☒ Update

**Requirement Level**

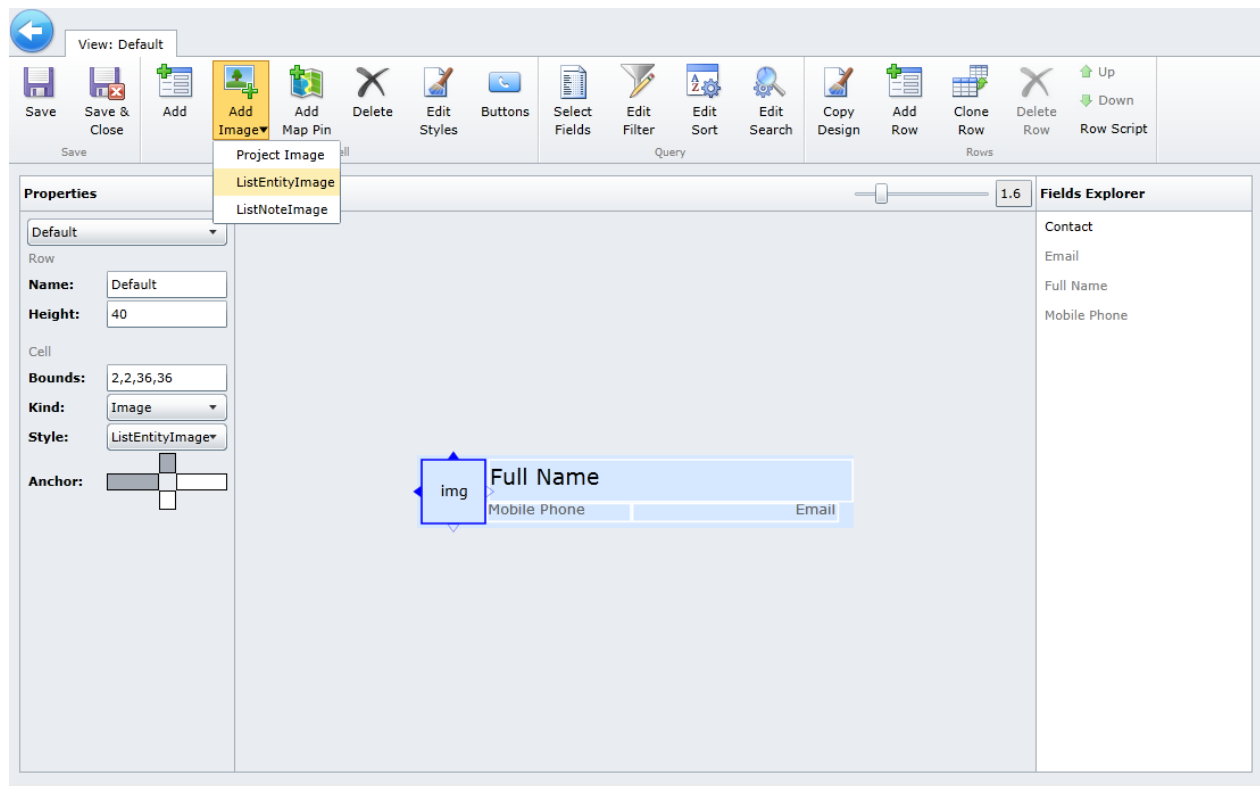
None

**Description**

Shows the default image for the r

#### 5.3.1.2.1 Entity image on View

Now we can go ahead to the View and add a picture to it. To do so, click on Add Image and select the ListEntityImage. Now you need to adjust the size of other fields, otherwise they will be overlaid by the picture.



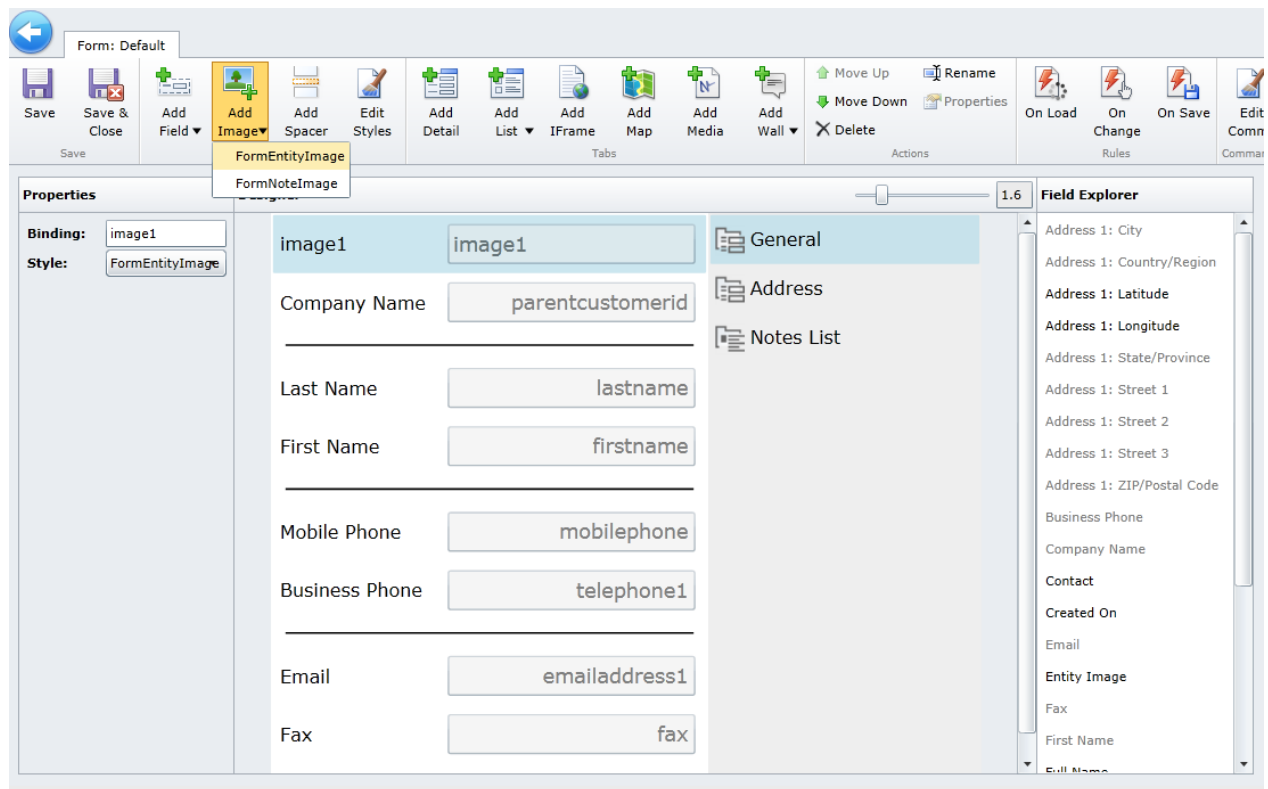
To preserve the default functionality, we do not recommend editing the ListEntityImage style. Save the changes and publish the customization (or proceed to setting up Edit Form entity image).

#### 5.3.1.2.2 Entity image on Contact Information Form

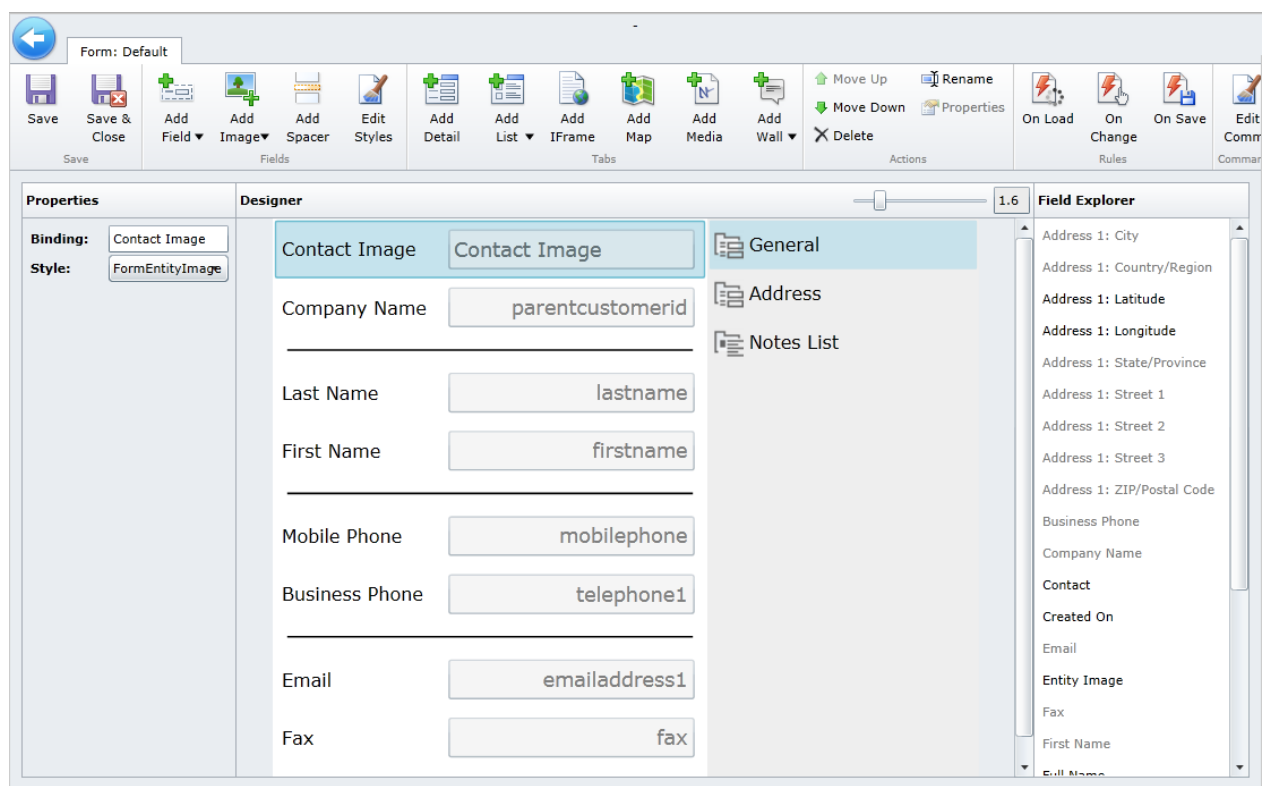
Once you enable the Entity Image field, the default image set for the record will be automatically displayed on the Contact Information Form. No need to perform any further steps.

#### 5.3.1.2.3 Entity Image on Edit form

To have the Entity Image on an Edit Form, open a form, click on the Add Image and select the FormEntityImage.



You can notice a new item, image1 on the Form. You can rename it to e.g. Contact Image by using the Binding field. To apply the change, click on the image field item.



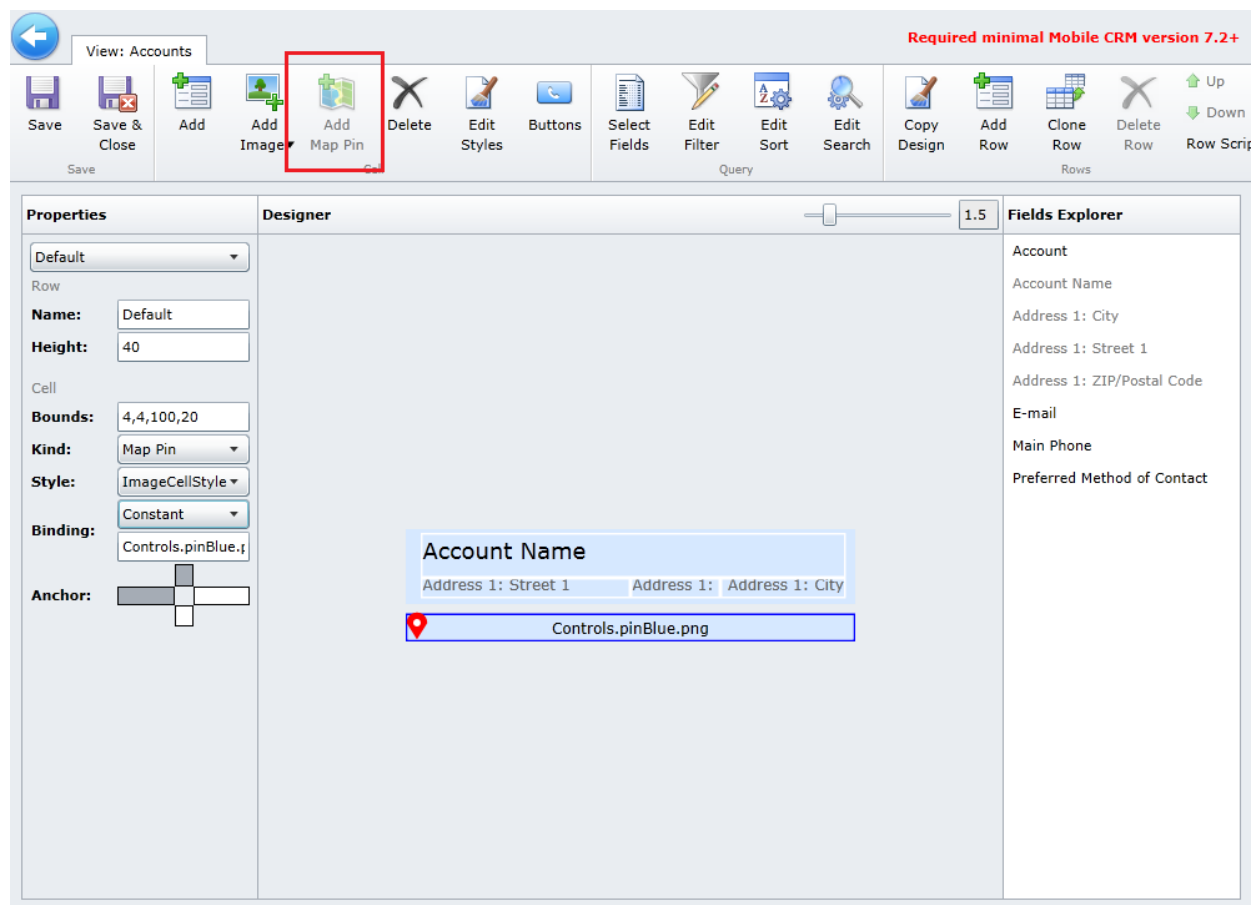
When you save the changes, publish the project and synchronize the Mobile CRM app. You will see Entity Images appear on the View and on the Edit Form for those records that have an Entity Image.

### 5.3.2 Custom Map Pins

It is possible to set the map pin for different records, according to a field difference. In your case it is an option set. I will demonstrate it on a field preferred method of contact on account entity. I want the records on the map to have different map pin according to different value on preferred method of contact.

First you need to go to the Account view, that is used on the global map (or a different one and we will make it to be used on the global map view).

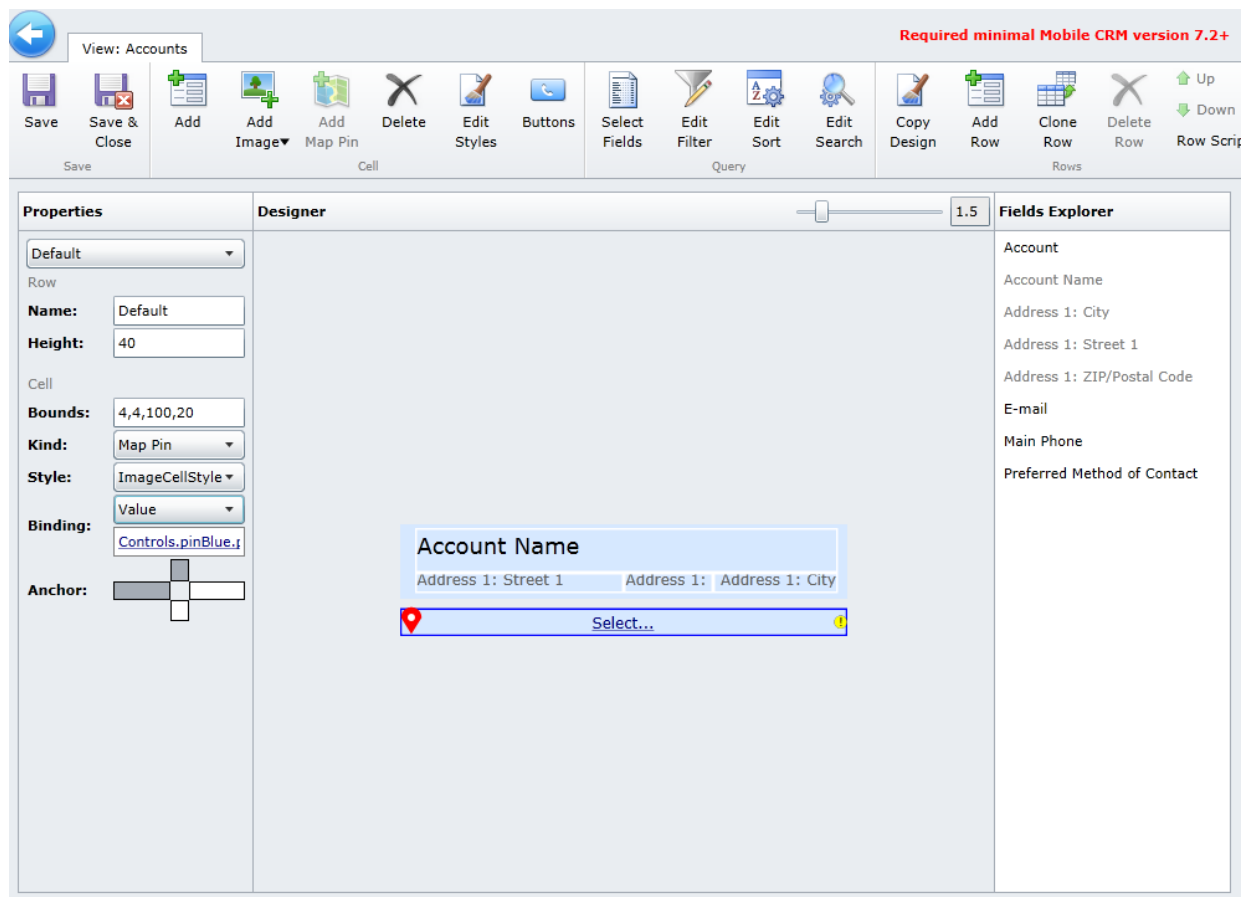
Then click on the Add Map Pin icon on the toolbar. It will add a static map pin.

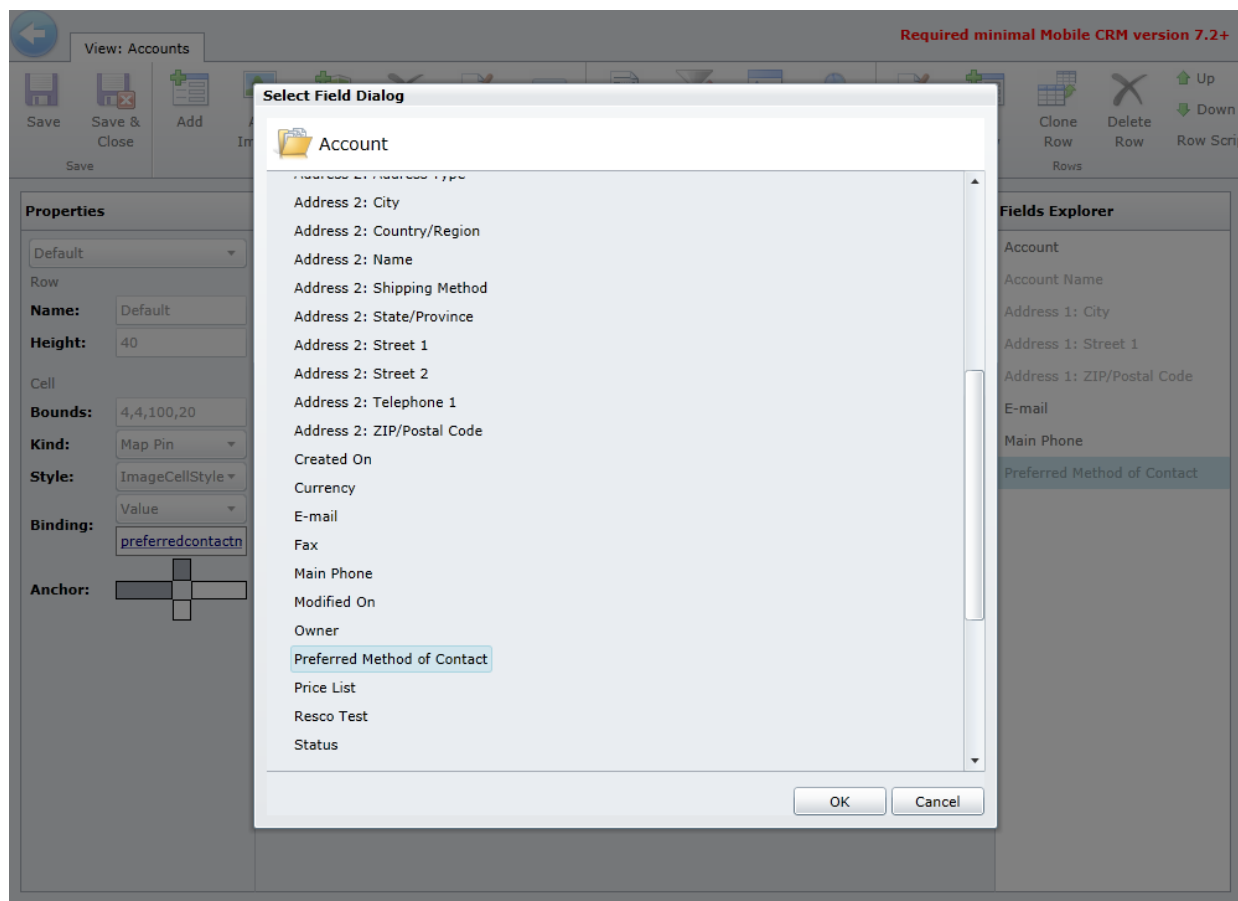


Now change the Binding type to Value.

**Tip:** If your option set contains labels, with spaces, or characters not allowed to be used in file name, set binding type to Raw Value. Then in later steps do not use option set's labels, but value (numbers).

Double click on the Select..., on the map pin item on the view and choose the Preferred Method of Contact.

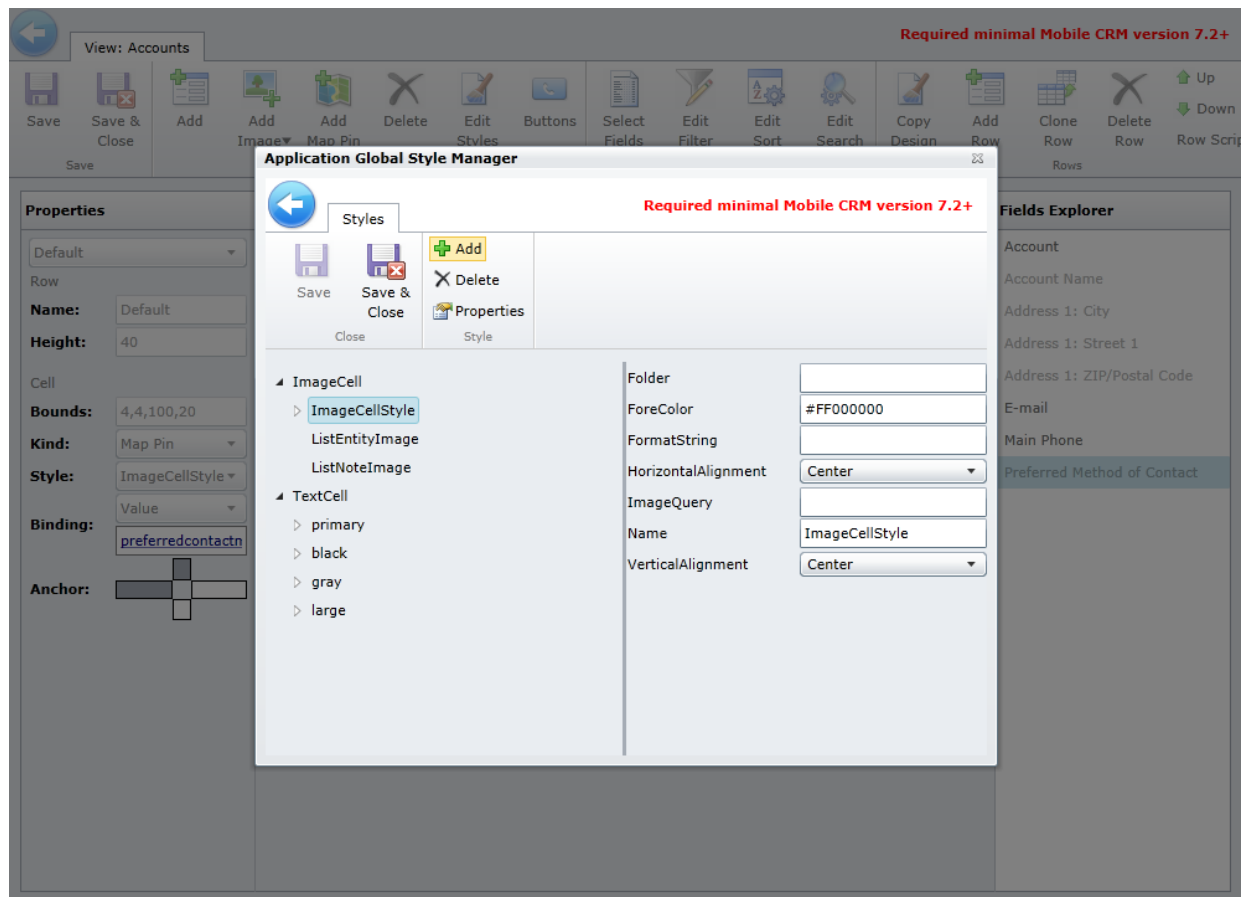




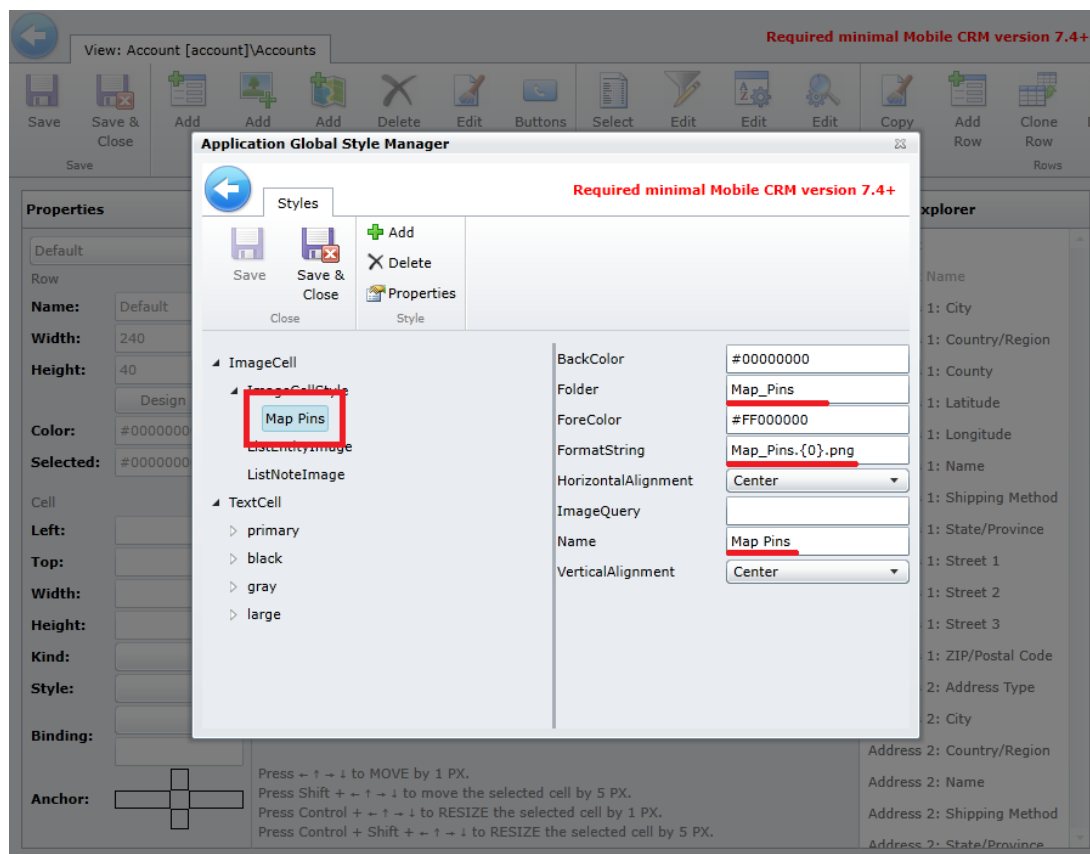
Now we will need to change the Style. In style you can define where the map pin pictures will be taken from.

First need to set up a new style to make it easier in the future. Or you can use a predefined one.

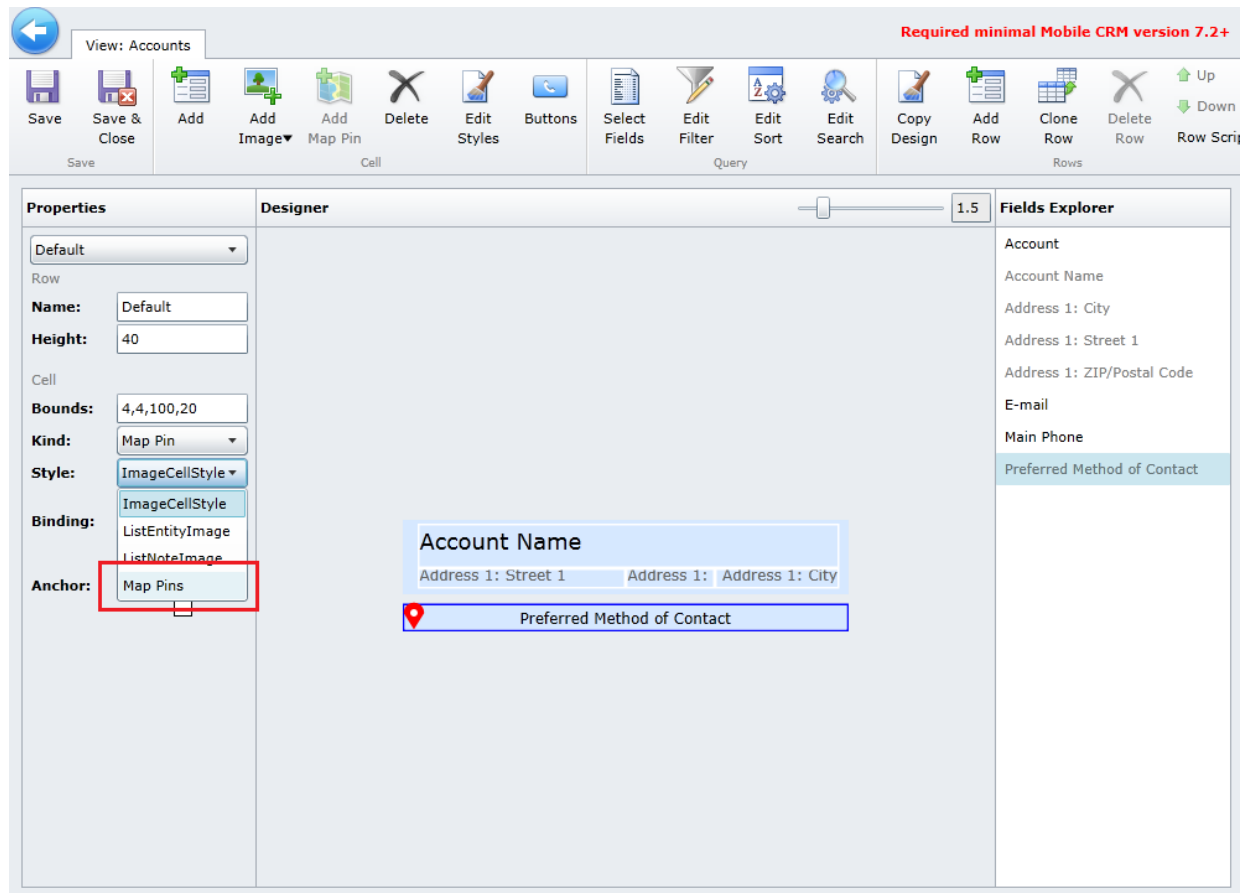
Go to Edit Styles, click on ImageCellStyle and click on New.



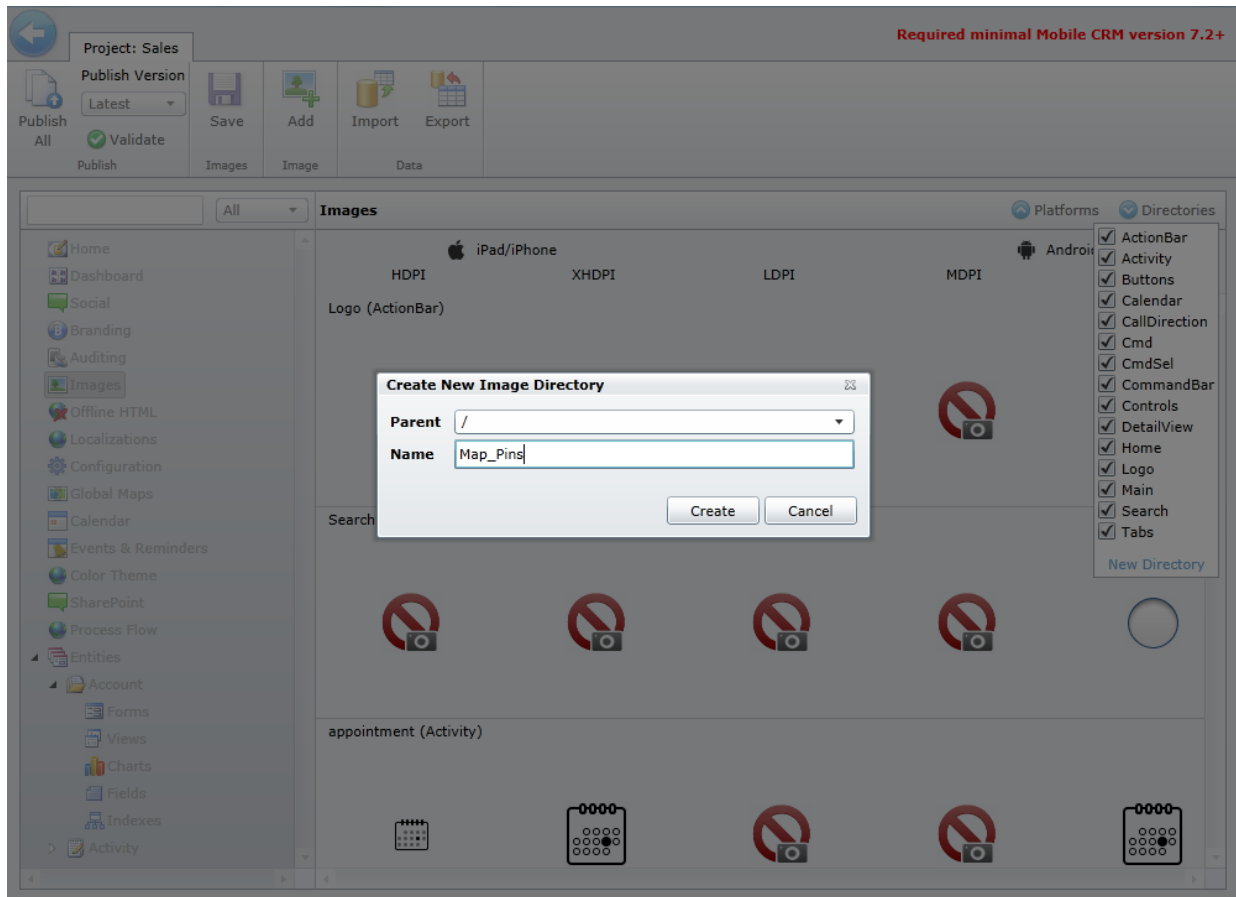
Click on the arrow at ImageCellStyle and click on the new style. Here you can set the Folder, where the images for the map pins will be taken from, and the style name. My style is named Map Pins and images will be stored in Map\_Pins folder. It is also important to set the FormatString option. It will tell the application how the picture, map pin, will be named and where it will be stored. The format string need to be set to “Map\_Pins.{0}.png”. Map\_Pins represent the folder, where the map pin picture will be stored, {0} represent the actual value of the field, that is used to differentiate pins, and png is the file format extension (each picture added to the project need to be in png format). Now Save & Close the editor. You can use this style also for other pins on different views.



Set the Style of the map pins item to the new style, Save & Close the changes.

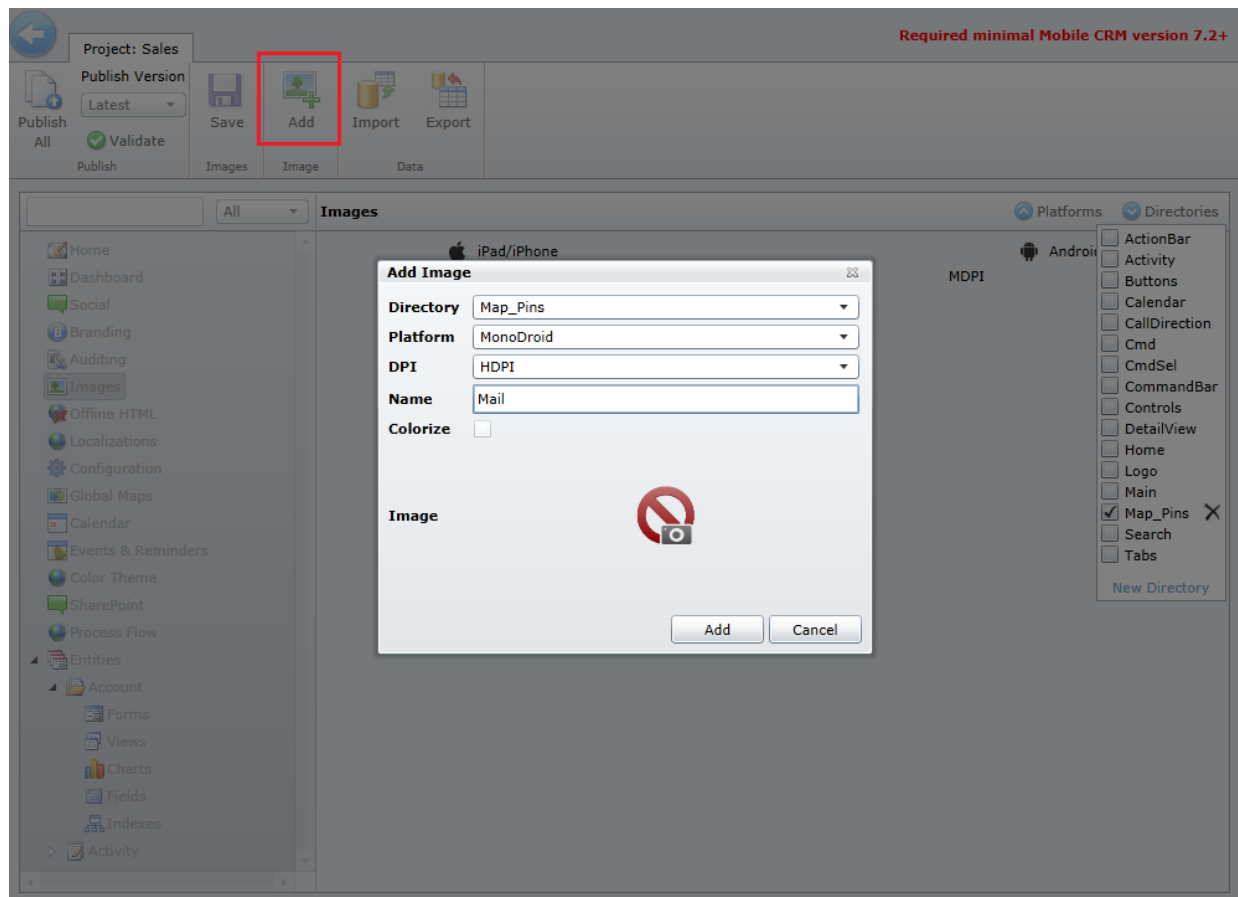


Now go to Images section. Click on the Directories, then on New Directory. Here we will create the directory with exact name as we entered to the style and hit Create.



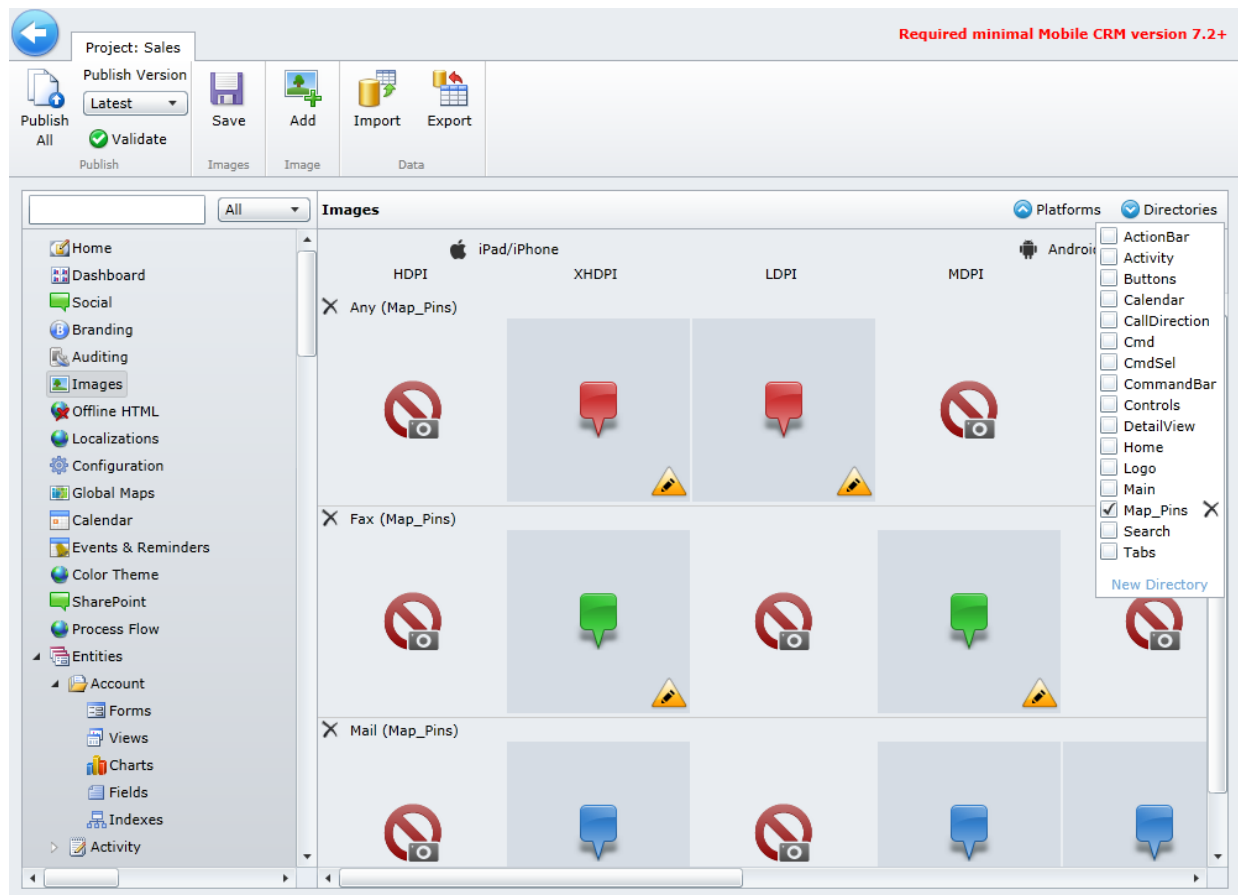
Now for better orientation, you can uncheck all the directories except the newly created one and hit Add.

Here you need to set the Directory to the one you created (Map\_Pins), the platform of the desired devices (you can add image for other platforms later), MonoDroid is Android, and MonoTouch is iOS. Then set the desired resolution and the Name. The Name is the name of the preferred method of contact field's value. In my case it is Any, Mail, Phone etc. By clicking on the no image icon, you can add image that will be used as a map pin for account with that value.

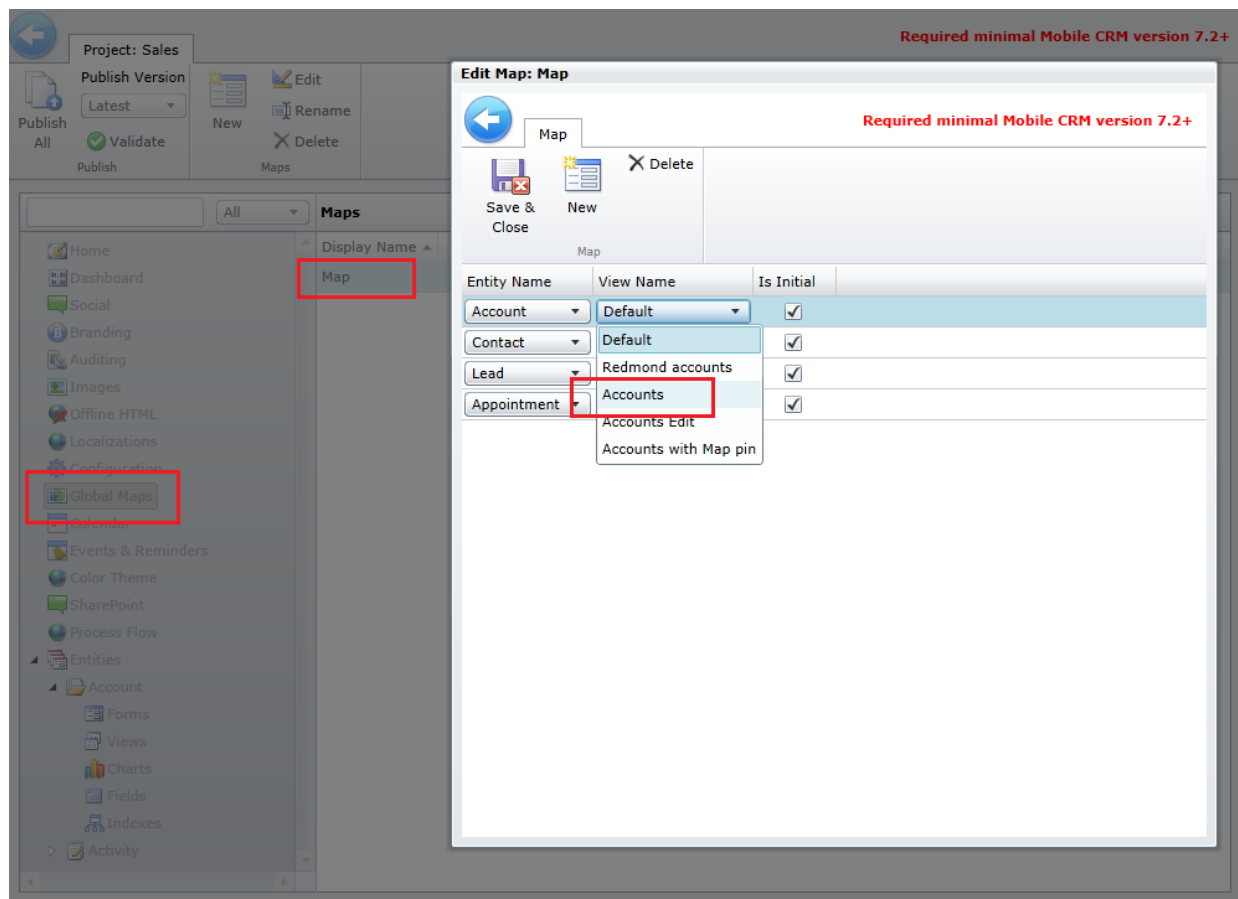


When you click Add, you will see the whole line for this value, where you can add other resolutions and platform images easier.

As you will be entering other desired values, it may look like this.



As the final step, go to Global Maps, open the Map where you want to use the customized view, and set the View, that contains your newly created pins as the one that will be used for the entity (Accounts view on Accounts entity).



## 5.4 Mobile Apps

### 5.4.1 External (Portal) User project

To learn what is the external user option, go to <http://blog.resco.net/2013/08/22/new-usage-scenarios-for-resco-mobile-crm-part-1/>

Prerequisites: You need to have the fields (e.g on. contact entity), where the user name and password of the external user is stored. The CRM user credentials are entered into Woodford and are stored on our licensing server.

So, if you have two fields on a dedicated entity that contain the user name and password, you can move on to creating a project for the external users.

You need to create a new project.

Set the type to External User.

- Server Alias will be used in the Mobile CRM app's sync dialog as URL. So in my case I enter external (or External) to the URL field on Mobile CRM sync dialog. This alias needs to be unique, as it an identifier of the project. It needs to be unique among all external/anonymous projects, so in case you are not able to save new external project, it usually means that the alias is already taken

- CRM user is the user (license) that will be used as the access to CRM
- Password is the password of the user
- Authentication entity is the entity where the fields with user name and password are stored
- User name field is the field on the authentication entity where the user name is stored
- Password field is the field on the authentication entity where the password is stored
- CustomerId field is the field that points to the parent entity record, using which you can then filter records that users see
- Customer Lookup Field is the specific field that contains the name of the parent record. This is a part of the authentication and needs to be filled in. Then you can limit the records a user will see (using sync and view filters)
- Registration method means the way users get registered (their records get created in the Authentication entity)

Then you can customize the project to define what these external users can see and edit.

**Add Mobile Project**

Type: External (Portal) User

Server Alias: External

CRM External URL: http://192.168.11.73/lukas

CRM User: RESCO\Lukas Lesko

Password: .....

Authentication Entity: Contact [contact]

User Name Field: E-mail [emailaddress1]

Password Field: password [new\_password]

Password Format: Plain

CustomerId Field: Parent Customer [parentcustomerid]

Customer Lookup Field: Account [account].Account Name [name]

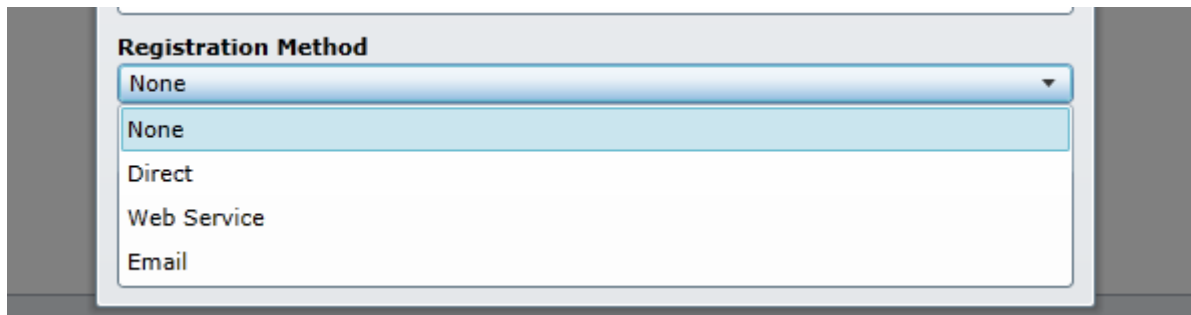
Registration Method: Direct

Edit Registration Form OK Cancel

Required minimal Mobile CRM version 7.1+

Refresh

| Administration  | Mobile Projects       |
|-----------------|-----------------------|
| Mobile Projects | Name ▲ Priority       |
| Security        | 1 Anon 0              |
| Mobile Users    | 2 External 0          |
| Localizations   | 3 ExternalSalesUser 0 |
| Geocoding       | 4 Sales 10000         |
| Plugins         | 5 SalesApp 2000       |
| Maintenance     | 6 Test project 1000   |
| Settings        |                       |
| Profile         |                       |
| Logs            |                       |
| About           |                       |



Under Registration Method option you can change the way a new external user is created.

None – You need to create the External user manually in CRM before a user can synchronize the app.

Direct – User can create a new External user using a registration form, after selecting Register User on Mobile CRM's Sync dialog, a record will be created directly on the CRM server.

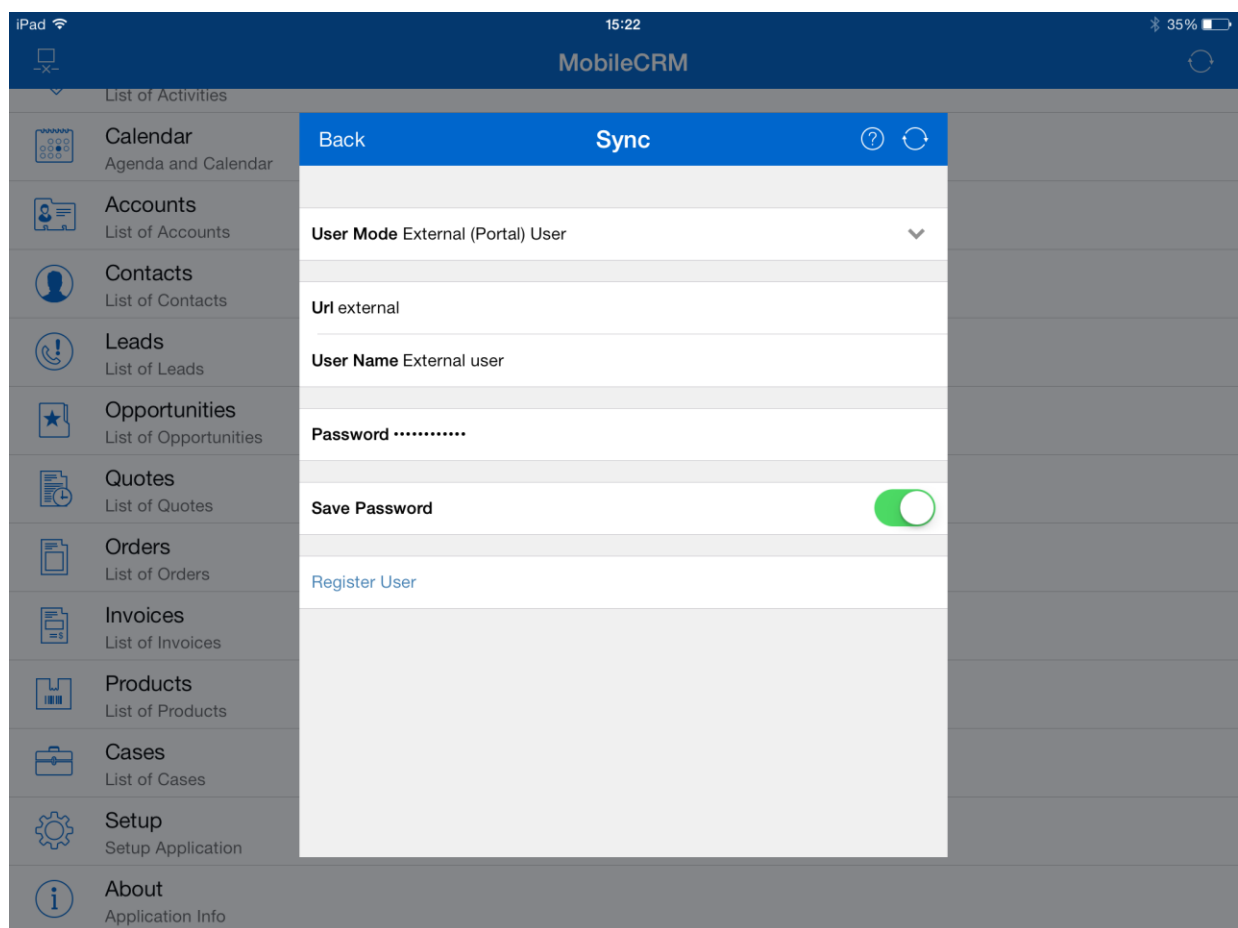
Web Service – Same as Direct method, but data from the registration form will be sent to the Web Service that you want to use for creating the record. Please contact us if you want more information about this option.

Email – Same as Direct method, but data from the registration form will be sent via an Email.

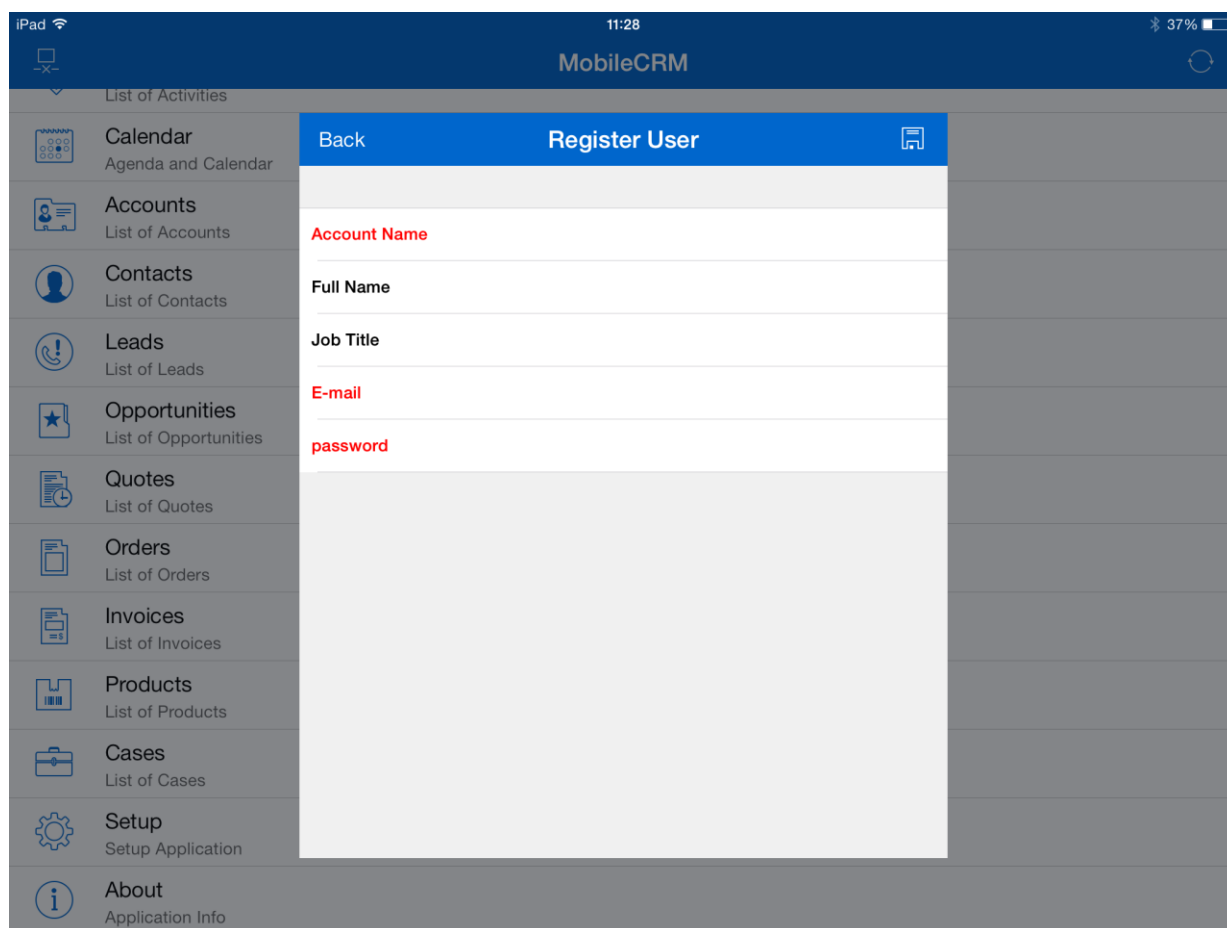
When you change the Registration Method to Direct, Web Service or Email, Edit Registration Form option shows up. Click on it and you can set up the registration form.

You can place any field from the Authentication entity there. Of course the User name and Password field should be there as well. Do not forget to add the field used as Customer Lookup Field that will set up the parent record. E.g.:





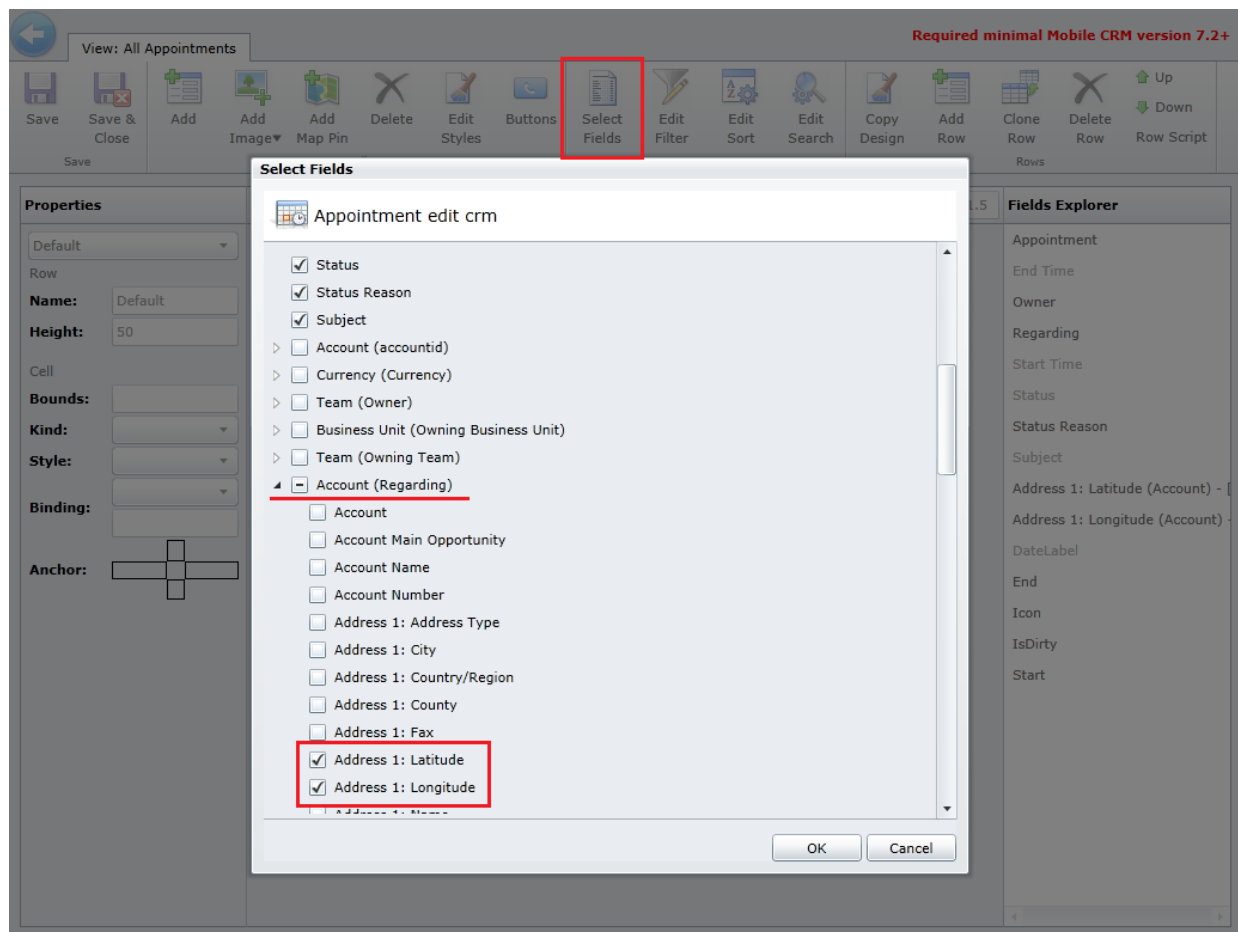
And this is the Registration form, when you click on Register User.



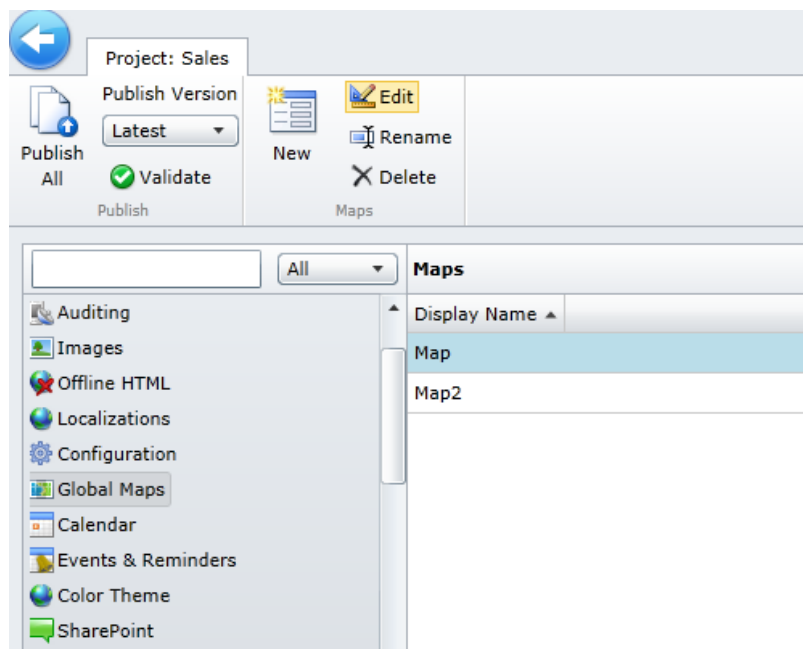
#### 5.3.4 Appointments on Global Map (Appointment entity does not have GPS fields)

In a situation, when you want to show records on a Global Map according to position of their parent records, like appointments, or service activities, you can simply add parent's GPS fields on the appointment's view.

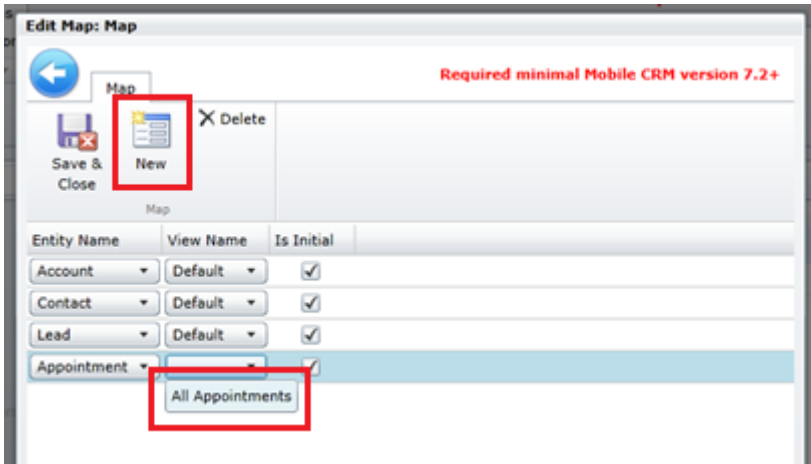
Go to the view, that you want to use on the Global Map. Click on Select Fields button, expand the Account (Regarding) and select its GPS position fields.



Save changes and go to Global Map. You can double tab on the map item, where you want to add the appointment view. Or select the item and click on Edit.

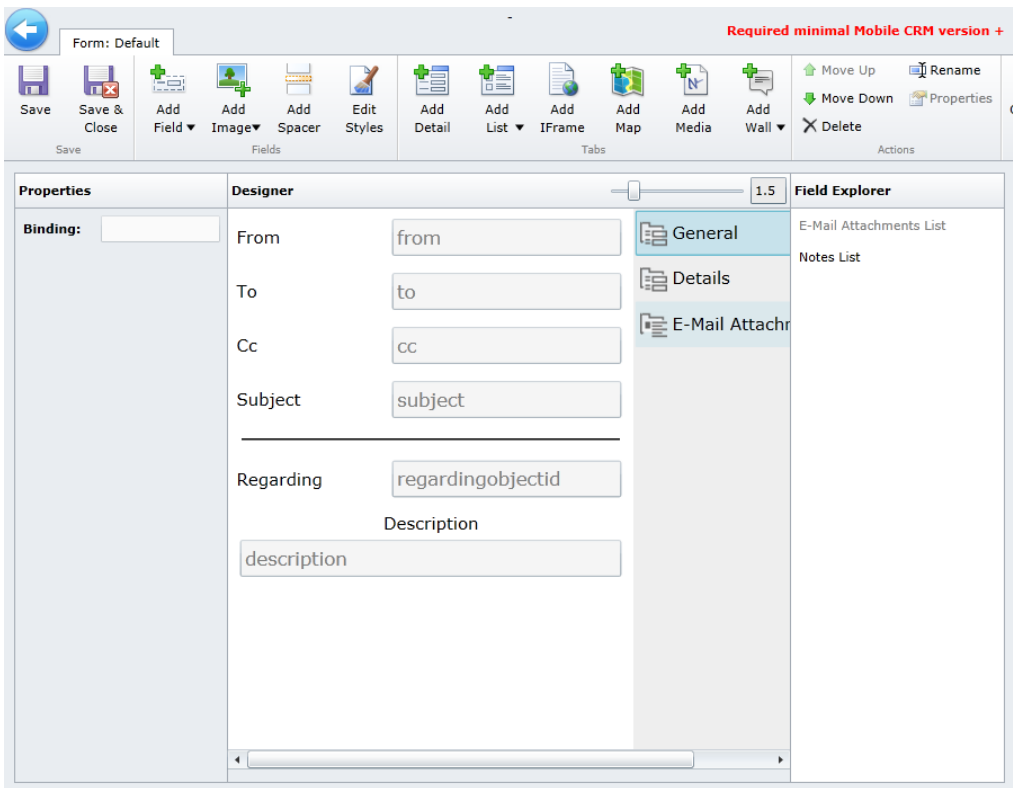


There add a new item and specify the entity (Appointment) and View (All Appointments). Only views, with GPS field available on the view are displayed.



### 5.3.5 E-mail attachments

In order to be able to add e-mail attachments to an email, you need to enable the E-mail Attachment entity. Then you need to place the E-mail Attachment List to the E-mail entity's edit form.



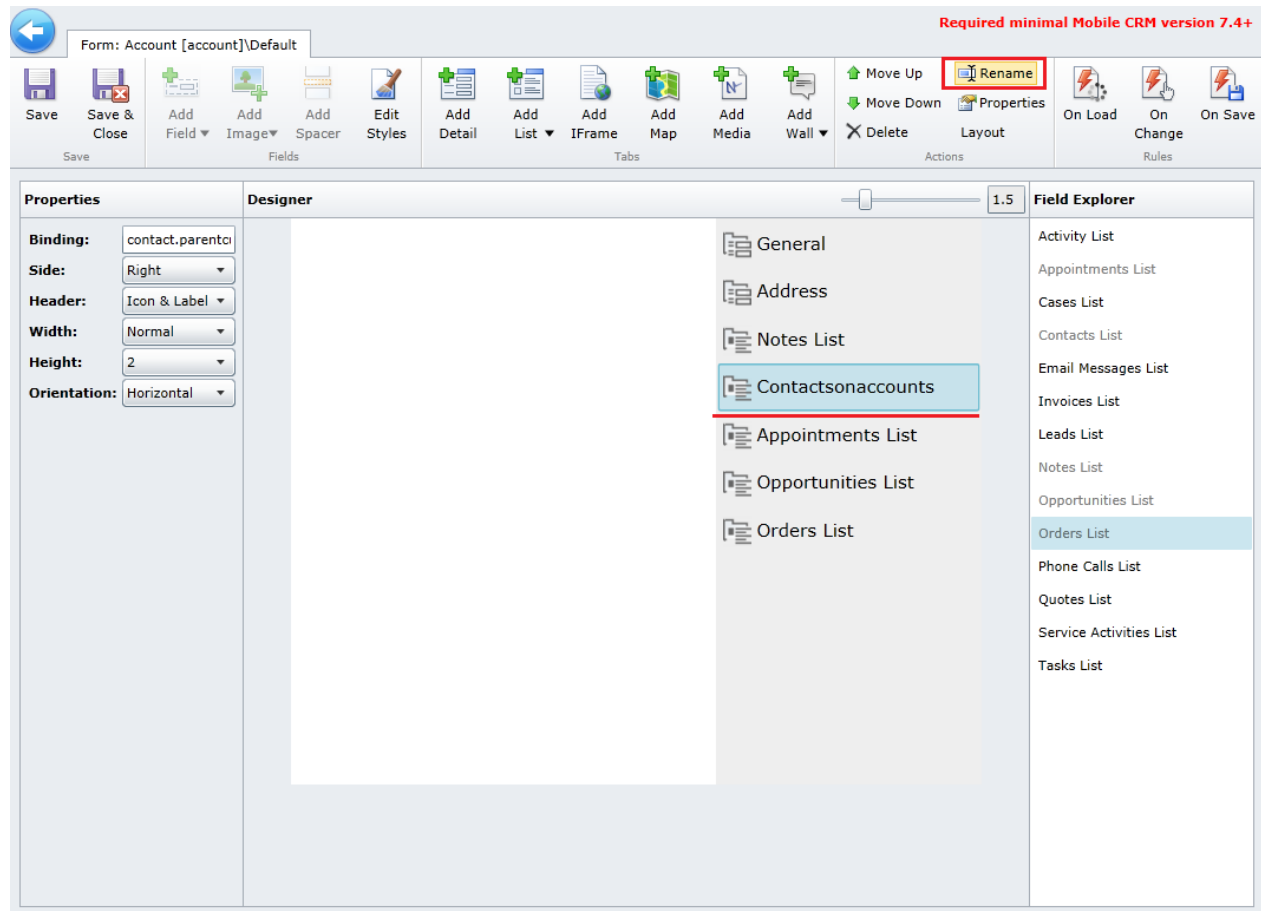
In Mobile CRM app you need to save the E-mail activity in order to be able to add an attachment.

### 5.3.6 Form items icon and name changes

To have different icons on form items, the idea is to have unique names of the tabs.

### 5.3.6.1 Icon changes

So you need to rename the items (tabs), and make sure that the item name does not contain spaces or characters that are not allowed to be used as file names. If you need to have a name where you want to use these “forbidden” characters, you can change the name in localization. You can see that in the next section. Without localization changes, the tab name will be displayed the way it is set in form.

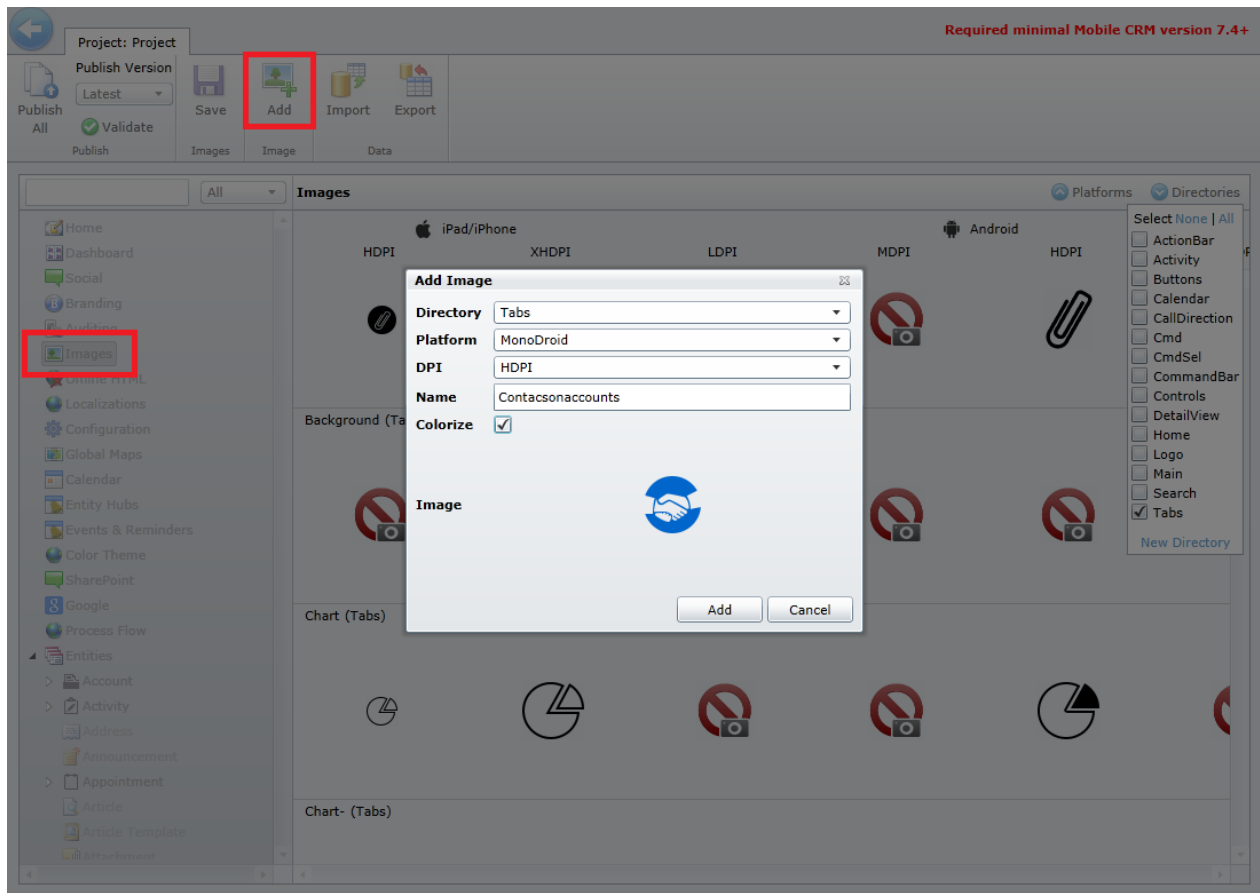


Then you can go to Images section.

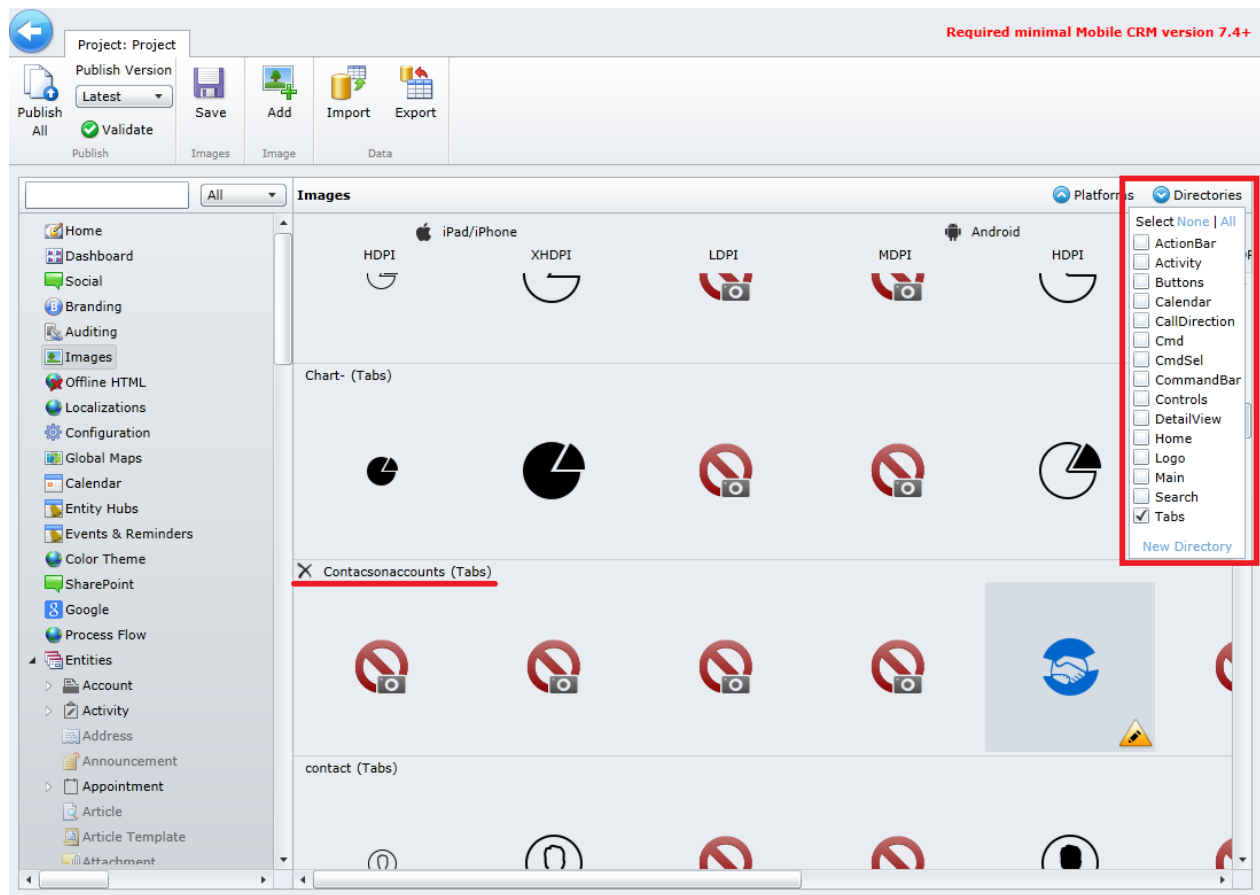
There tap on Add. Select a folder, e.g. Tabs. This is to define where the picture will be stored inside the project. Also, if you want to have the same name of the tab but different picture on different forms, you can create new folders and distinguish pictures. Then select the target platform (you can add pictures to other platforms later on and easier, this is the initial step) and the desired DPI (other DPI same as with platforms).

MonoDroid means Android, and MonoTouch is iOS.

The name of the picture should be the same as the name of the Tab.



For easier navigation, you can disable the folders that you do not need to see

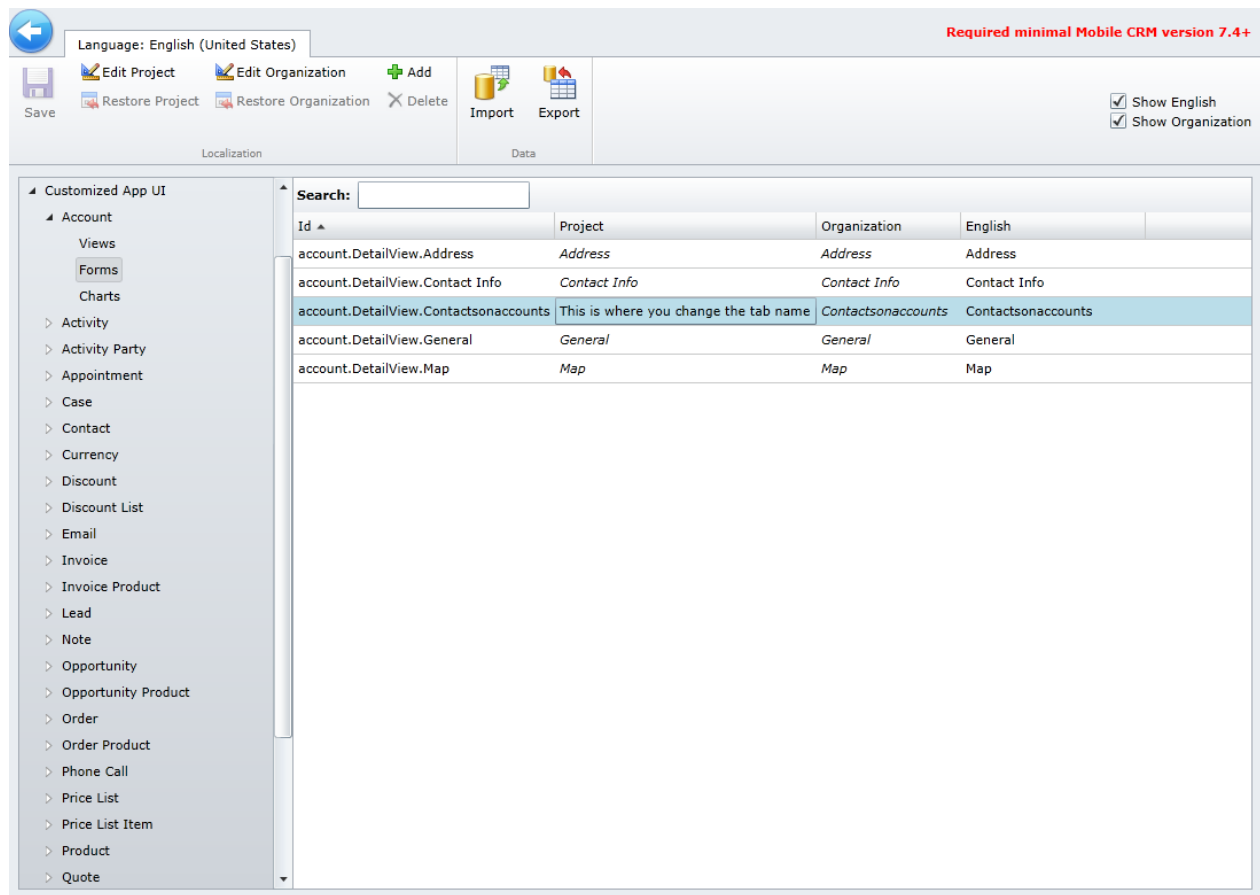


Other platforms and DPIs can be added directly in the Images section. Just click on the empty picture icon and add the desired image.

In case of tab pictures, only the alpha channel of a png file is used.

### 5.3.6.2 Localization of the tab name

To change the display name of the tab (if you want to use spaces and characters not allowed to be used in file names), after making the tab name unique, go to Localization section. Open the language for which you want to change the tab name. Go to Customized App UI section, expand it, search for Account, form (because the tab is located on the account form) and look for the name of the tab. Or you can search for account.detailview.contactsonaccount and change the text in project column. Please bear in mind that the space for the tab name is limited, so rather short name should be used.



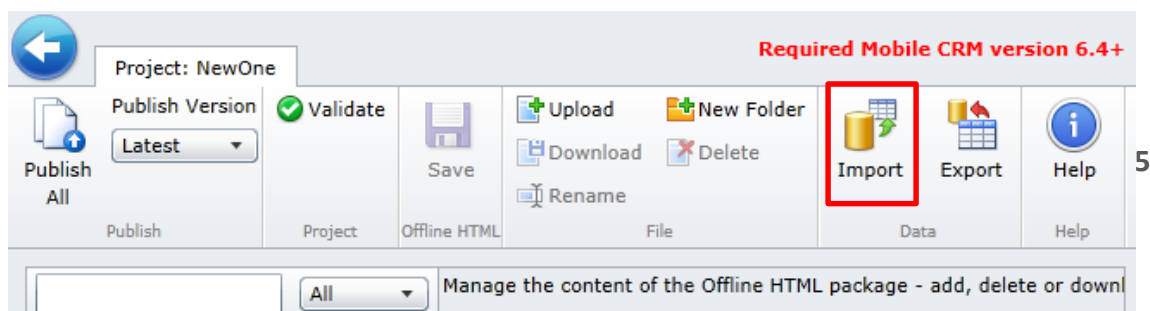
Now just save all the changes and publish the project.

## 6 Add offline HTML files

MobileCRM client allows you to use HTML and JavaScript to utilize and customize the application. There are many scenarios, where you can benefit from using the HTML and JavaScript files within the application. You can for example add the HTML 5 presentation to your home menu. While creating and designing the presentation, you can use all the features of HTML, CSS and JavaScript. Another one example, from many, is the complex Order builder. Suppose you want to create a new order. Your order form contains several ComboBoxes from which you can choose the properties of the order. These ComboBoxes are dependent on each other. If you pick a value from the first ComboBox, the possible values of second ComboBox will change etc. This task would require a lot of effort if written in C#. Using HTML and Resco JavaScript Bridge. This task can be done in a blink of an eye. (Note: learn more about Resco JavaScript Bridge in following section).

To add a html file to your project:

1. Open the MobileCRM project in Woodford
2. In Woodford's Offline HTML section, click on Import



3. Locate the zip file and press 'Open' button.
1. Publish the project.
2. Sync the client application.

The zip file that you have uploaded should contain all the offline files that are required for your presentation. Typically it contains an \*.html file plus some \*.js and \*.css files.

As an example take a look on this simple HTML presentation. It contains the index.html file and common.css file. The common.css file contains the cascading style sheet definitions of HTML elements. *(see [www.w3.org](http://www.w3.org) for more info about css)*

You can also add your \*.html, \*.js, \*.css or any media files separately using Upload button. You can also create folder structure, rename, delete or download files included in Offline HTML.

index.html:

```
<html>
<head>
  <link rel="stylesheet" href="styles.css" />
  <script type="text/javascript" src="JSBridge.js"></script>
</head>
<body>
<div class="account">
  <div class="text">
    <h1 id="account-name"></h1>
    <p id="address-street"></p>
    <p id="address-city"></p>
    <p id="phone"></p>
  </div>
</div>
</body>
```

styles.css:

```
body
{
  font-family: Helvetica,Arial,sans-serif;
```

```

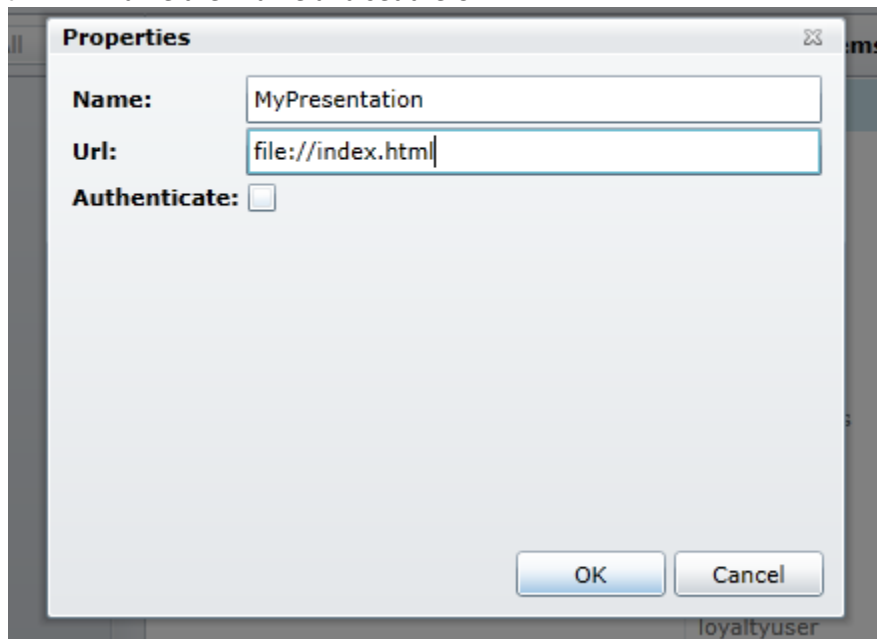
    font-size: 8px;
    padding: 15px;
}
p
{
    line-height: 1.2em;
}

```

Now the project contains the html files and after you sync the application, these files are downloaded to the client. But, no HTML files are displayed to the user yet. To achieve this, let's add an Iframe item to the Home screen.

Adding a new Iframe item:

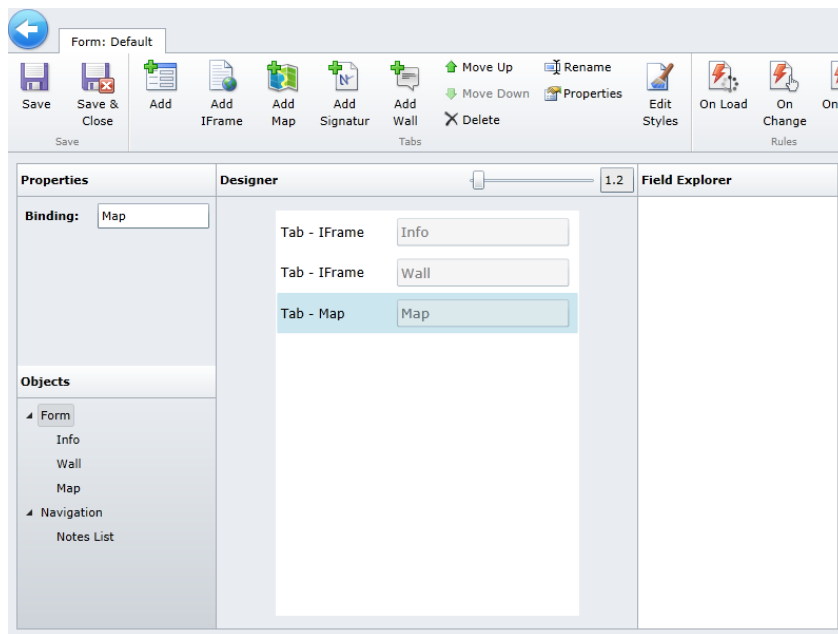
1. Click on a 'Home' item in the MobileCRM project
2. Press the 'Add Iframe' button. (Located on the top ribbon)
3. Name the Iframe and set the URL.



4. Press OK. Save and Publish the project.

URL specified is the relative path to your html file (within the zip file). In our sample case, the path will be <file:///index.html> (note: we are using *file:///* prefix instead of *http://*). If your zip file contains directories and subdirectories, the path to your html file could look like: <file:///dir/subdir/file.html>. Using Woodford you can also add an HTML frame to any entity form. Within this form you can pass, through the URL, entity specific properties to the html file. To add an HTML file to entity form, do the following:

1. In Woodford MobileCRM project, open the entity form, you want to modify.



2. Click on the 'Add IFrame' button.
3. Similar to previous example, fill in the Name of the tab and the URL.
4. Confirm the action by pressing the 'OK' button.

In application, now if you select the entity, you have modified in Woodford. The new tab will appear, containing the HTML file specified in the URL property. You can pass any property of the entity to the html. To do this, use the following syntax:

<file:///filename.html?{entitypropertyname1}&{entitypropertyname2}&...&{entitypropertynameN}>

To access these properties from within the HTML file, simply get the *window.location* JavaScript object and split the search property string:

```
var params = window.location.search.substring(1).split('&');
```

You can find more information and an example of how to work with Resco JavaScript Bridge in following section.

## 7 Resco JavaScript Bridge

The JavaScript Bridge implemented in Mobile

CRM client application is an analogy of the PhoneGap. It customizes the platform-dependent web browser controls so that it was possible to make a call from JavaScript to C# code and invoking the JavaScript functions from the C# code.

Using JavaScript Bridge in your HTML or JavaScript file, you can create, modify and read entities stored on a device. You read a list of entities by creating and executing the *MobileCRM.FetchXml.Fetch* JavaScript object. For creating and modifying the entities, there is a *MobileCRM.DynamicEntity* object.

Moreover, you can access the metadata, localized texts, platform-specific services (like device inform bar-code scanner or location service), read the application configuration (including CRM server and credentials) and access to the UI objects (like entity form and its views).

## 7.1 Implementing the CRM Fetch Request from JavaScript

To get the entity or list of entities, there is a *MobileCRM.FetchXml.Fetch* object in JavaScript Bridge. Calling the *execute* method on this object, you will obtain the list of entities specified by *MobileCRM.FetchXml.Entity* object.

First, you must tell the *MobileCRM.FetchXml.Fetch* object, which entities you are interested in. To achieve this, you define the *MobileCRM.FetchXml.Entity* object. In constructor, specify the entity name. For example:

```
var entity = new MobileCRM.FetchXml.Entity("account");
```

Note: The name of the entity is lower-case logical name, e.g.: “account”, “salesorder”...

Next, you may specify the attributes of the entity (fields), you want to obtain. For this, there is method called *addAttribute*.

```
entity.addAttribute("id");  
entity.addAttribute("name");
```

You may want to retrieve the list of entities in specific order. Sorted by the name, or created date. The second parameter is boolean and indicates whether to sort entities in ascending or descending order.

```
entity.orderBy("createdon", true); // First sort by creation date; newest first  
entity.orderBy("name", false); // First sort by name; ascending sort
```

If you want only specific entities of given type, define the filter or group of filters, that will be applied on the result set. If you want to retrieve only those accounts, that are from Boston and are active, you call the *where* function of filter object.

```
entity.filter = new MobileCRM.FetchXml.Filter(); // create filter for entity  
entity.filter.where("address1_city", "eq", "Boston"); // get Boston Accounts  
entity.filter.where("statuscode", "eq", 1); // which have "Active" status
```

First parameter is name of the field, second parameter is operator and third parameter holds value to compare with. List of allowed operators is:

- eq – equals
- ne – not equals
- lt – less than
- le – less or equal than
- gt – greater than
- ge – greater or equal than
- like – check if field contains specific string (you are allowed to use wildcard, %)
- not-like – opposite of like operator

If you need more complex filter, you can use the *MobileCRM.FetchXml.Filter* object. Filters could be combined. In other words, each filter can contain several subfilters, that are linked by logical AND or logical OR operator. For example, let's create a filter that will return all active accounts from Boston and all accounts from New York. (no matter if they are active or not)

```
var filterBoston = new MobileCRM.FetchXml.Filter();  
filterBoston.where("address1_city", "eq", "Boston");  
filterBoston.where("statuscode", "eq", 1); // get only "Active" entities
```

```
var filterNY = new MobileCRM.FetchXml.Filter();  
filterNY.where("address1_city", "eq", "New York");  
var finalFilter = new MobileCRM.FetchXml.Filter();  
finalFilter.filters.push(filterBoston); // add boston filter  
finalFilter.filters.push(filterNY); // add new york filter  
finalFilter.type = "or"; // accounts from NY or Boston  
entity.filter = finalFilter;
```

Note: Every filter can have subfilters.

You can link entities of different type to the one you have specified for fetch. Assume that you want to retrieve the name of contact for account entity.

```
var linkEntity = entity.addLink("contact", "parentcustomerid", "accountid", "outer");
linkEntity.addAttribute("fullname");
```

First parameter is entity name of the linked entity. Second is the lookup filed name, third parameter is primary key of the entity (in this case it is account entity and primary key is accounted). Last parameter specifies the type of the link.

Finally we set the newly created entity with fetch object and call the execute method.

```
var fetch = new MobileCRM.FetchXml.Fetch(entity);
fetch.execute("Array", function (res) { success(res); }, function (err) { fail(err); }, null); }
```

The result of the fetch execute method is passed back to

JavaScript asynchronously and is handled by two callback methods, that you pass as parameters of *execute* function. First function is for success. The result set is passed to this function in a parameter. The result set may be in various forms. The structure of result is defined in first parameter of the *execute* function. Possible values are:

- "Array" – entities are represented by two-dimensional containing the requested values.  
Example: [[89076B83-4EC0-4544-9CD5-2E85696E2F2D, "A company name"], [5B2C3261-18F1-4C59-9713-8D0D4F94AA30, "Another Company"],...]
- "JSON" – json representation of entities
- "XML" – result is XML result set, similar to CRM SOAP response
- "DynamicEntities"  
– array of objects of *MobileCRM.DynamicEntity* (see next section for more)

If there was a problem obtaining the entities, the failure callback (third parameter of the *execute* function) is called and error message is passed to this callback.

Fourth parameter is the scope for the callbacks: *this* object inside the callback functions will point to the parameter passed here. You can leave this parameter empty.

Note: Remember that the results are obtained asynchronously.

When put together, the above code looks like this:

```
function OnFetchData() {

    var entity = new MobileCRM.FetchXml.Entity("account"); // alternatively, you can set the
entity
    entity.addAttribute("accountid");
    entity.addAttribute("name");

    entity.orderBy("createdon", true); // First sort by creation date; newest first
    entity.orderBy("name", false); // First sort by name; ascending sort

    entity.filter = new MobileCRM.FetchXml.Filter();
    entity.filter.where("address1_city", "eq", "Boston"); // get Boston Accounts
    entity.filter.where("statuscode", "eq", 1); // which have "Active" status

    var linkEntity = entity.addLink("contact", "parentcustomerid", "accountid", "outer");
    linkEntity.addAttribute("fullname");

    var fetch = new MobileCRM.FetchXml.Fetch(entity);
```

```
fetch.execute("Array", function (res) { DisplayResults(res); }, function (err) {
DisplayResults(err); }, null);
```

## 7.2 Creating and Modifying the CRM entities using JavaScript Bridge

If you want to create or modify entity, use the *MobileCRM.DynamicEntity* object. Creating and modifying entities is pretty straightforward. To create a new *MobileCRM.DynamicEntity*, call the static function *MobileCRM.DynamicEntity.createNew(entityName)* :

```
var entity = new MobileCRM.DynamicEntity.createNew("account");
```

If you want to modify existing entity, pass the entity primary key in second parameter

```
var entity = new MobileCRM.DynamicEntity("account", entityID);
```

Next, add properties of this entity. To do so,

set the value of the entity.properties array on specific index.

Index is represented by the name of the attribute (field).

```
entity.properties["name"] = "Martin";
```

Sometimes you need to add reference to another entity. To do

so, add new property of object type, that contains *id* and *entity* properties. Id is the id

of the referenced entity. Entity contains the entity name (the type) of the referenced entity

```
entity.properties["primarycontact"] = { entityName: "contact", id: primaryContactId };
```

You can modify and set new properties of the entity. If you are

done, call the *save* method of the *MobileCRM.DynamicEntity* object.

```
entity.save(function (err) {
if (err != null)
DisplayError(err);
else {
// this.id contains the ID of the newly created entity
TestEntityID.value = this.id;
//
```

this.properties contains the previously specified properties plus other properties with their default values

```
var props = this.properties;
DisplayResults(props);
}
}, null);
```

## 7.3 HTML/JavaScript Bridge Sample

In this section we provide you with a sample that will demonstrate and summarize all the features of JavaScript Bridge and Woodford offline HTML files support.

In this sample we create the HTML form for adding a new contact to existing account entity.

The best thing to start with, is creating the HTML file. This file will contain basic info about entity and an HTML form for adding new contact. The source code looks like this:

```
<html>
<head>
<!-- Activate IE9 document mode, if available -->
<meta http-equiv="X-UA-Compatible" content="IE=edge" />
<!-- Defined iOS viewport -->
<meta name="viewport" content="initial-scale=1, minimum-scale=1, maximum-scale=1, user-scalable=false">
<link rel="stylesheet" href="styles.css" />
<script type="text/javascript" src="JSBridge.js"></script>
</head>
<body onload="onBodyLoaded()">
<div class="account">
<div class="text">
<h1 id="account-name"></h1>
<p id="address-street"></p>
```

```

        <p id="address-city"></p>
        <p id="phone"></p>
    </div>
    <div>
        <h2>Add new contact:</h2>
        <table>
            <tr>
                <td>First Name</td>
                <td><input id="txtFirstName" type="text" /></td>
            </tr>
            <tr>
                <td>Last Name</td>
                <td><input id="txtLastName" type="text" /></td>
            </tr>
            <tr>
                <td>Email</td>
                <td><input id="txtEmail" type="text" /></td>
            </tr>
            <tr>
                <td colspan="2"><button id="btnSubmit" onclick="addUser()">Add Contact</button></td>
            </tr>
        </table>
    </div>
</div>
</body>

```

And this is how we want to have the HTML document displayed within the CRM application:

The screenshot shows a web application interface for a CRM. At the top, there's a blue header with the text 'Active Cycling'. Below this, the contact's details are listed: '100 Red Oak Lane', 'Dallas', and '555-0135'. Underneath, there's a section titled 'Add new contact:' in blue. This section contains three input fields labeled 'First Name', 'Last Name', and 'Email'. At the bottom of this section is a grey button labeled 'Add Contact'.

HTML elements within this file are styled in separate *style.css* file, and the definition of this styles looks like this:

```

body
{
    font-family: Helvetica,Arial,sans-serif;
    font-size: 8px;
    padding: 15px;
}
p
{
    line-height: 1.2em;
}

```

```

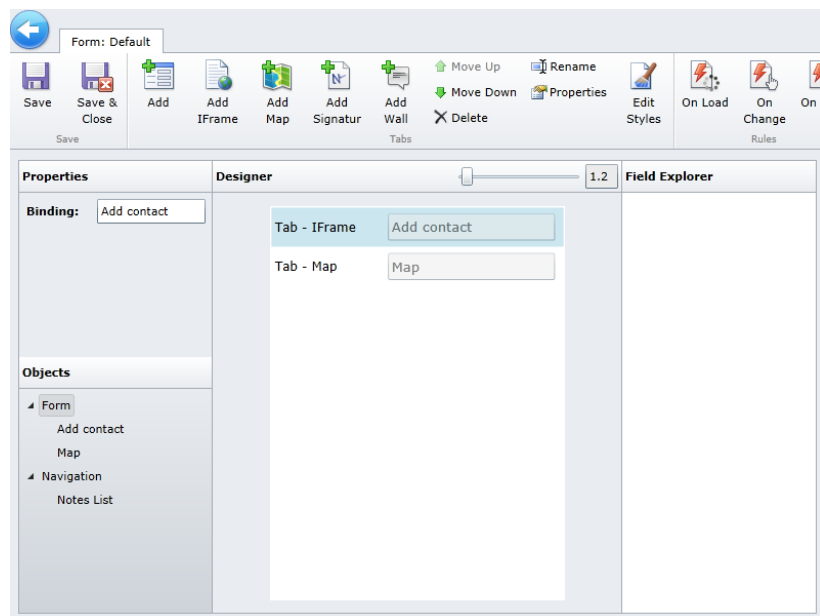
}

.account input
{
    margin-left: 40px;
}
.account p
{
    margin: 15px;
    font-size: 1.2em;
}
.account h1
{
    color: #235cc2;
    font-size: 1.8em;
}
.account h2
{
    font-size: 1.5em;
    color: #235cc2;
}
}

```

Next, we need to add those files to Woodford project. Open the Woodford project and add the HTML offline file to this project. Don't forget to zip these files.

In Woodfod, open the account entity, select the Forms and open Default form by double clicking it. Now add a new IFrame to this default Contact Information Form, name it Add Contact and set url to point to HTML file. In our case the url is file://account.html.



If you now save and publish the project and sync and update the client application you will see that the new tab has been added to account entity. After clicking on this tab, the account.html document is displayed, but contains no data yet. So as a last step we must add few lines of code to account.html. Open the account.html file and append these lines to the body of the document:

```

<script>
    var accountid = null;

    function onBodyLoaded() {
        // Request EntityForm object to get currently edited entity

```

```

MobileCRM.UI.EntityForm.requestObject(onAccountPropsChanged, onError, null);
// Bind the "onChange" handler to get changes performed on edited entity
MobileCRM.UI.EntityForm.onChange(onAccountPropsChanged, true, null);
// Bind the "onSave" handler to perform additional validation
MobileCRM.UI.EntityForm.onSave(onAccountSave, true, null);
}

function onAccountPropsChanged(entityForm) {
    // entityForm is an instance of MobileCRM.UI.EntityForm (the account's edit form)
    var editedEntity = entityForm.entity; // editedEntity is an instance of
MobileCRM.DynamicEntity representing our edited account
    accountid = editedEntity.id; // Remember edited account id
    var props = editedEntity.properties;
    document.getElementById("account-name").innerText = props["name"];
    document.getElementById("address-street").innerText = props["address1_line1"];
    document.getElementById("address-city").innerText = props["address1_city"];
    document.getElementById("phone").innerText = props["telephone1"];
}

function onAccountSave(entityForm) {
    // entityForm is an instance of MobileCRM.UI.EntityForm (the account's edit form)
    var editedEntity = entityForm.entity; // editedEntity is an instance of
MobileCRM.DynamicEntity representing our edited account
    var props = editedEntity.properties;
    if (!(props["telephone1"] && (props["address1_line1"] || props["address1_city"])))
        entityForm.context.errorMessage = "Account must have phone number and address";
}

function onError(error) {
    if (typeof alert != "undefined") // alert is not defined on Windows RT (Win8 Metro)
        alert("An error occurred:" + err);
}

function addUser() {
    var contact = new MobileCRM.DynamicEntity.createNew("contact");// create contact entity
    lastname = document.getElementById('txtLastName').value, // get values from HTML form
    firstname = document.getElementById('txtFirstName').value,
    fullname = firstname + " " + lastname,
    email = document.getElementById('txtEmail').value;

    // create properties for contact entity
    contact.properties["fullname"] = fullname;
    contact.properties["lastname"] = lastname;
    contact.properties["firstname"] = firstname;
    contact.properties["emailaddress1"] = email;
    // add lookup field pointing to account
    contact.properties["parentcustomerid"] = {
        entityName: "account",
        id: accountid
    };
};

// save the entity
contact.save(function (err) {
    if (typeof alert != "undefined") { // alert is undefined on WindowsRT (Metro)
        if (err != null)
            alert('Update error ' + err);
        else {
            alert('New contact ' + fullname + ' was created.');
```

Now save the file. Update the zip package and upload it to Woodford project. Sync and update client application. Now you have a new HTML form for adding a new contact in your application. You can download full sample here: <http://resco.net/downloads/www.zip>

